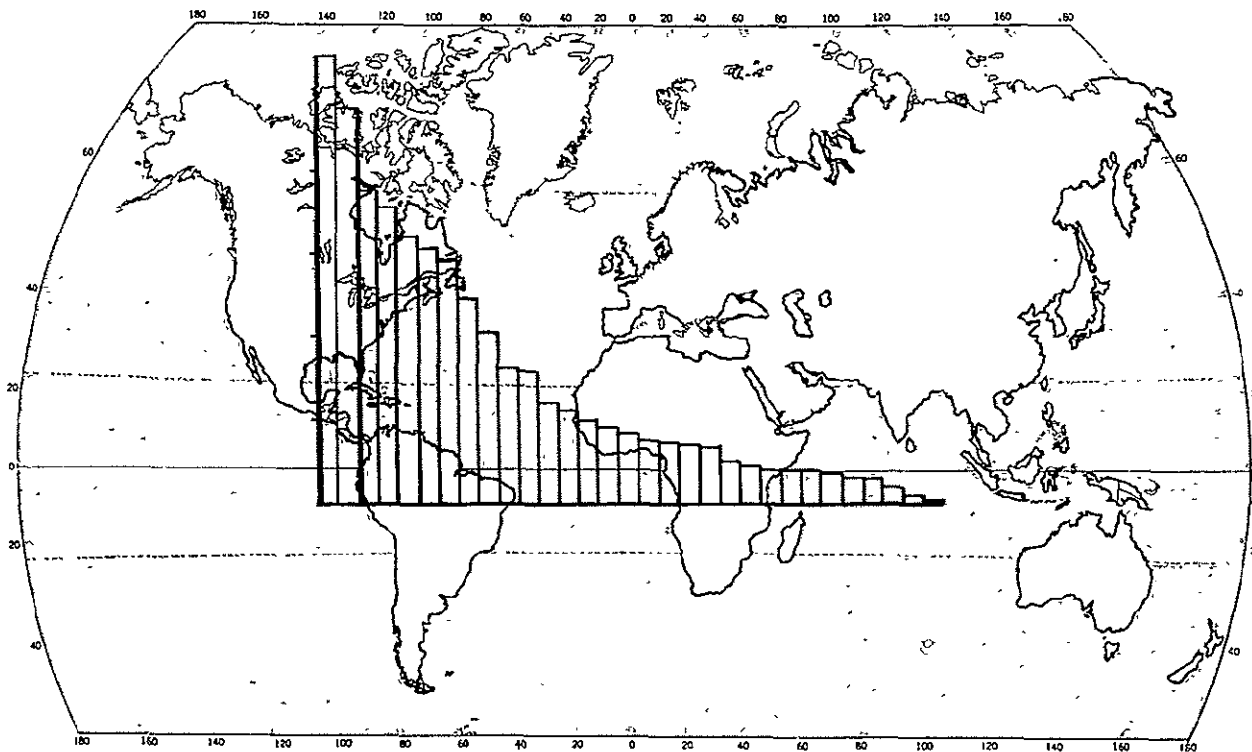


# POTATO ATLAS

## *international statistics on potato production and utilization*



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P O T A T O   A T L A S

A Compendium of International Statistics  
on Potato Production and Utilization  
Presented in Maps, Tables and Charts

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## PRESENTATION

This publication presents statistical information on world potato production and utilization, summarized in maps, tables and charts.

Section I presents data on production and use in all countries and regions of the world. Section II focuses on the developing countries grouped into the seven CIP Regions. Section III applies regression analysis to data for selected countries, in an attempt to clarify relationships between certain country characteristics and major aspects of their potato production and use.

Statistics from three major publications have been analyzed and summarized: FAO Production Yearbook (Rome, various years), FAO Food Balance Sheets, 1964-66 (Rome, 1971), and World Bank Atlas (Washington, D.C., 1975).

The following symbols are used in the tables:

F	=	FAO estimate	(2)	=	Tentative estimates
---	=	No data available	(3)	=	Includes data for Namibia
s.n.	=	Small numbers (less than one-half the unit in which data are presented)	(4)	=	Mainland Tanzania
			(5)	=	Belgium and Luxemburg
			(6)	=	CIP estimate
*	=	Unofficial figures	(7)	=	Excludes Russia
w	=	Weighted average	(8)	=	Excludes China
(1)	=	Growth rate 1962-73	(9)	=	Excludes Russia and China

Hugo Fano, Cecilia Moreno and Luis Quintanilla were responsible for much of the statistical work and map-making. Cecilia Kalinowski, Maritza Benavides and Mariella Altet typed and checked the tables, figures and charts. Victor Madrid prepared the cover. Their substantial contributions to this publication are gratefully acknowledged.

## TABLE OF CONTENTS

### Page

Presentation .....	5
List of Maps .....	6
List of Figures.....	6
List of Tables .....	8
<u>Section I</u> -- Potato Production and Utilization in the World.....	13
<u>Section II</u> -- Potato Production and Utilization in Developing Countries.....	47
<u>Section III</u> -- Regression Analysis of International Potato Statistics.....	105

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<u>LIST OF MAPS</u>	<u>Page</u>
<u>Map I.1:</u> Per capita Potato Production (kg/yr) 1972/74 .....	15
<u>Map I.2:</u> Calories Derived from Potatoes as Percent of Total from all Vegetal Sources .....	16
<u>Map I.3:</u> Potato Yields (t/ha) 1972/74 .....	17
<u>Map I.4:</u> Percent Change in Potato Production 1961/65-1972/74 .....	18
<u>Map I.5:</u> Percent Changes in Area Seeded to Potatoes 1961/65-1972/74 .....	19
<u>Map I.6:</u> Percent Change in Potato Yields 1961/65-1972/74 .....	20
<u>Map II.1:</u> CIP Regions .....	49
<u>Map II.2:</u> Countries in CIP Regions .....	50
<u>Map III.1:</u> IFPRI Food Deficit Countries by Income Category .....	109

<u>LIST OF FIGURES</u>	<u>Page</u>
<u>Figure I.1:</u> Potato Production by FAO Region 1972/74 .....	21
<u>Figure I.2:</u> Utilization of Potatoes in Developed, Developing and Centrally Planned Economies .....	22
<u>Figure I.3:</u> Three-Year Moving Averages of Potato Production by FAO Region 1934/38-1974/76 .....	23
<u>Figure I.4:</u> Three-Year Moving Averages of Area in Potatoes by FAO Region 1934/38-1974/76 .....	24
<u>Figure I.5:</u> Three-Year Moving Averages of Potato Yields by FAO Region 1934/38-1974/76 .....	25
<u>Figure II.1:</u> Potato Production in Seven CIP Regions 1972/74 .....	52
<u>Figure II.2:</u> Potato Production - Region I 1972/74 .....	53
<u>Figure II.3:</u> Potato Production - Regions II, III and IV 1972/74 .....	54
<u>Figure II.4:</u> Potato Production - Regions V, VI and VII 1972/74 .....	55
<u>Figure II.5:</u> Potato Production in Devel- oping Countries with Over 10,000 Hectares in Potatoes 1972/74 .....	56

	<u>Page</u>
<u>Figure II.6: Per Capita Potato Production in Developing Countries with Over 10,000 Hectares in Potatoes 1972/74</u> .....	57
<u>Figure II.7: Area Seeded to Potatoes in Developing Countries with Over 10,000 Hectares in Potatoes 1972/74</u> .....	58
<u>Figure II.8: Area Seeded to Potatoes as Percent of Total Cropland in Developing Countries with Over 10,000 Hectares in Potatoes 1972/74</u> .....	59
<u>Figure II.9: Potato Yields in Developing Countries with Over 10,000 Hectares in Potatoes 1972/74</u> .....	60
<u>Figure II.10: Percent Change in Potato Production in Developing Countries with Over 10,000 Hectares in Potatoes 1961/65-1972/74</u> .....	61
<u>Figure II.11: Percent Change in Area Seeded to Potatoes in Developing Countries with Over 10,000 Hectares in Potatoes 1961/65-1972/74</u> .....	62
<u>Figure II.12: Percent Change in Potato Yields in Developing Countries with Over 10,000 Hectares in Potatoes 1961/65-1972/74</u> .....	63
<u>Figure II.13: CIP Regions I and II - Three-Year Moving Averages of Potato Production 1934/38-1974/76</u> .....	64
<u>Figure II.14: CIP Regions I and II - Three-Year Moving Averages of Area in Potatoes 1934/38-1974/76</u> .....	65

	<u>Page</u>
<u>Figure II.15: CIP Regions I and II - Three-Year Moving Averages of Potato Yields 1934/38-1974/76</u> .....	66
<u>Figure II.16: CIP Regions I and II - Three-Year Averages of Potato Production 1962/64-1974/76</u> .....	67
<u>Figure II.17: CIP Regions I and II - Three-Year Moving Averages of Area in Potatoes 1962/64-1974/76</u> .....	68
<u>Figure II.18: CIP Regions I and II - Three-Year Moving Averages of Potato Yields 1962/64-1974/76</u> .....	69
<u>Figure II.19: CIP Region III - Three-Year Moving Averages of Potato Production 1962/64-1974/76</u> .....	70
<u>Figure II.20: CIP Region III - Three-Year Moving Averages of Area in Potatoes 1962/64-1974/76</u> .....	71
<u>Figure II.21: CIP Region III - Three-Year Moving Averages of Potato Yields 1962/64-1974/76</u> .....	72
<u>Figure II.22: CIP Region IV - Three-Year Moving Averages of Potato Production 1962/64-1974/76</u> .....	73
<u>Figure II.23: CIP Region IV - Three-Year Moving Averages of Area in Potatoes 1962/64-1974/76</u> .....	74
<u>Figure II.24 : CIP Region IV - Three-Year Moving Averages of Potato Yield 1962/64-1974/76</u> .....	75

Figure II.25 : CIP Regions V, VI and VII-  
Three-Year Moving Averages of Potato  
Production 1962/64-1974/76 ..... 76

Figure II.26: CIP Regions V, VI and VII-  
Three-Year Moving Averages of Area  
in Potatoes 1962/64-1974/76 ..... 77

Figure II.27: CIP Regions V, VI and VII-  
Three-Year Moving Averages of Potato  
Yields 1962/64-1974/76 ..... 78

Figure III.1: Potato Yields as a  
Function of GNP Per Capita -  
20 Strata ..... 114

Figure III.2: Number of Tractors Per  
1,000 Ha as a Function of GNP Per  
Capita - 20 Strata ..... 115

Figure III.3: Kg Fertilizer Used as a  
Function of GNP Per Capita -  
20 Strata ..... 116

Figure III.4: Potato Consumption Per  
Capita as a Function of GNP Per  
Capita - 20 Strata ..... 117

Figure III.5: Percent Potatoes  
Processed as a Function of GNP Per  
Capita - 20 Strata ..... 118

Figure III.6: Annual Average Percent  
Change Potato Production as a  
Function of Potato Consumption -  
20 Strata ..... 119

Figure III.7: Calculated Income Elasticity  
of Demand for Potatoes as a Function of  
Potato Consumption- 20 Strata ..... 120

Figure III.8: Reported Potato Yield in  
Relation to Expected Yield - 62  
Countries Cultivating Over 10,000 Ha  
Potatoes ..... 121

#### LIST OF TABLES

Table I.1: FAO Regions : Potato Production  
1972/74 and Annual Average Percentage  
Changes 1961/65-1972/74 ..... 26

Table I.2: FAO Regions : Potato Balance  
Sheets 1972/74 ..... 27

Table I.3: World Potato Production by  
Country 1972/74, Percent Change in  
Area, Production and Yield 1961/65-  
1972/74 ..... 28 - 33

Table I.4: Potato Balance Sheets for  
Producing Countries 1972/74 ..... 34 - 39

Table I.5: FAO Regions: Total and Per  
Capita Production of Cereals, Potatoes  
and Other Roots and Tubers 1972/74 ..... 40

Table I.6: FAO Regions: Absolute and  
Relative Area in Cereals, Potatoes and  
Other Roots and Tubers 1972/74 ..... 41

Table I.7: FAO Regions : Absolute and  
Relative Yields of Cereals, Potatoes  
and Other Roots and Tubers 1972/74 ..... 42

	<u>Page</u>
<u>Table I.8: FAO Regions: Annual Average Percent Change in Total and Per Capita Production of Cereals, Potatoes and Other Roots and Tubers 1961/65-1972/74 .....</u>	43
<u>Table I.9: FAO Regions: Annual Average Percent Change in Area and Yield of Cereals, Potatoes and Other Roots and Tubers 1961/65-1972/74 .....</u>	44
<u>Table II.1: CIP Regions: GNP Per Capita and Population Circa 1970 .....</u>	79
<u>Table II.2: CIP Regions: Potato Produc- tion 1972/74 .....</u>	80
<u>Table II.3: CIP Regions: Potato Balance Sheets 1972/74 .....</u>	81
<u>Table II.4: CIP Region I and II : GNP Per Capita and Population Circa 1970 .....</u>	82
<u>Table II.5: CIP Region III: GNP Product Per Capita and Population Circa 1970 .....</u>	83
<u>Table II.6: CIP Region IV: GNP Per Capita and Population Circa 1970 .....</u>	84
<u>Table II.7: CIP Regions V, VI and VII: GNP Per Capita and Population Circa 1970 .....</u>	85
<u>Table II.8: CIP Regions I and II: Potato Production and Consumption 1972/74 .....</u>	86

	<u>Page</u>
<u>Table II.9: CIP Region III: Potato Production and Consumption 1972/74.....</u>	87
<u>Table II.10: CIP Regions IV and V: Potato Production and Consumption 1972/74 .....</u>	88
<u>Table II.11: CIP Regions VI and VII: Potato Production and Consumption 1972/74 .....</u>	89
<u>Table II.12: CIP Regions I and II: Potato Balance Sheets 1972/74 .....</u>	90
<u>Table II.13: CIP Region III : Potato Balance Sheets 1972/74 .....</u>	91
<u>Table II.14: CIP Regions IV and V : Potato Balance Sheets 1972/74 .....</u>	92
<u>Table II.15: CIP Regions VI and VII : Potato Balance Sheets 1972/74 .....</u>	93
<u>Table II.16: CIP Regions : 41 Largest Potato Producing Countries in Terms of Volume of Production 1972/74 .....</u>	94 - 95
<u>Table II.17: CIP Regions: 41 Largest Potato Producing Countries in Terms of Seeded Area 1972/74 .....</u>	96 - 97
<u>Table II.18: CIP Regions: Potato Yields in 31 Major Producing Countries 1972/74 .....</u>	98
<u>Table II.19: CIP Regions: Area Seeded to Potatoes as a Percent of Crop- land in 31 Major Producing Countries 1972/74 .....</u>	99

	<u>Page</u>
<u>Table II.20: CIP Regions: Potato</u> Production Per Capita in 31 Major Producing Countries 1972/74 .....	100
<u>Table II.21: CIP Regions: Percent</u> Change in Potato Production in 31 Major Producing Countries 1961/65-1972/74 .....	101
<u>Table II.22: CIP Regions: Percent</u> Change in Area Seeded to Potatoes in 31 Major Producing Countries 1961/65-1972/74 .....	102
<u>Table II.23: CIP Regions: Percent</u> Change in Potato Yields in 31 Major Producing Countries 1961/65-1972/74 .....	103
<u>Table III.1: GNP Per Capita and</u> Population in 59 Countries Grouped in 20 Strata Circa 1970 .....	122 - 125

	<u>Page</u>
<u>Table III.2: Availability of Cropland,</u> Fertilizers and Tractors in 59 Countries Grouped in 20 Strata Circa 1973 .....	126 - 129
<u>Table III.3: Potato Production and</u> Consumption in 59 Countries Grouped in 20 Strata 1972/74 .....	130 - 133
<u>Table III.4: Average Annual Rates of</u> Change of Potato Production, Yields, and Availability of Fertilizers and Tractors in 59 Countries Grouped in 20 Strata 1961/65-1972/74 .....	134 - 137
<u>Table III.5: Regression Results for</u> 20 Strata and 62 Countries .....	138
<u>Table III.6: Expected Yields and</u> Recorded Yields for Potatoes in 62 Countries Cultivating Over 10,000 Hectares of Potatoes .....	139 - 141



Section I

Potato Production and Utilization in the World

## Section I

### POTATO PRODUCTION AND UTILIZATION IN THE WORLD

Maps I.1-6 illustrate regional patterns of potato production and consumption. The highest levels of per capita production are in northern latitude countries of Europe and North America, and in the Andean Mountain Range of South America. The lowland tropics of Africa, Asia and Latin America (Central America and South America north and east of the Andes) are areas of low per capita production. The potato's contribution to human vegetal caloric intake is greatest where per capita production is highest. Yields are highest in North America, Western Europe and Oceania, and lowest in Tropical Africa. In recent years the growth of production has been greatest in Africa. Production has declined in several countries of Western Europe. These production trends are closely related to changes in the area seeded to potatoes. In most countries yields have changed less than the area under potato cultivation.

Figure I.1 illustrates regional patterns of yields, production and the area seeded to potatoes. Figure I.2 shows how utilization patterns differed between the developed, developing and centrally planned economies in the mid-1960s\*. In the developing countries over two-thirds of harvested potatoes are destined for human consumption in fresh form. In the developed market economies and centrally planned economies, a much larger share of the crop is processed or fed to livestock.

Available time series data indicate that from the mid-1930's until the mid-1950's, potato production increased substantially in Asia, Africa and the Americas, and declined somewhat in Europe.

\* More recently, potato processing for human consumption has increased in importance in the developed countries, especially in North America. In the USA, for example, over half of all potatoes for human consumption are now processed. No major shifts have occurred in potato utilization in developing countries. D. E. van der Zaag, "Potato Production and Utilization in the World" Potato Research 19(1976) pp. 37-72.

In developing countries the area seeded to potatoes increased more rapidly than yields. In Europe yields remained nearly constant while the seeded area fell (Figures I.3-5).

Tables I.1 and I.2 present regional statistics on potato production and utilization for the period 1972/74. Average annual production was 297 million tons of potatoes. Of these, 78 million tons were produced in developed market economies, 21 million tons in developing countries and 198 million tons in the centrally planned economies of Europe and Asia. Average yields were 22 tons/ha in developed countries, 12 tons/ha in centrally planned economies and 9 tons/ha in developing countries.

During the decade 1963-73\* world potato production increased by approximately 5 percent. In the developed countries, as a whole, production declined by 15 percent, whereas in centrally planned economies and developing countries production increased by 12 and 35 percent, respectively. The area seeded to potatoes dropped by an average of 30 percent in developed countries and by 4 percent in centrally planned economies, but increased by 14 percent in developing countries. Yields increased by 21 percent in developed countries, and by 17 percent in centrally planned and developing countries. Comparing major world regions, potato production and the seeded areas increased most substantially in Africa and Asia, and declined in Western Europe; yields increased most in Oceania and least in Africa (Table I.1).

Selected country-level statistics on potato production and utilization are in Tables I.3 and I.4. Data are presented for all countries which produce potatoes, according to the 1974 FAO Production Yearbook.

During 1972/74 less than 2 percent of world potato production entered foreign trade channels, and most of the trade in potatoes took place within Western Europe. Among the developing regions, Latin America was the major importer of potatoes and the Near East was the major exporter. In the mid-1960's use of potatoes for livestock feed was restricted mainly to Europe where approximately 40 percent of the crop was processed.

\* Average 1961/65 - 1972/74.

In North America, less than 10 percent of the potato crop was utilized for livestock feed, and in the developing countries 2 percent or less. FAO statistics indicate that no potato processing is carried out in the developing countries\*. The relatively low processing figures for developed countries reported by FAO in 1964/66 are misleading, due to sharp increases, primarily in North America, in recent years.

Tables I.5-9 compare regional statistics for potatoes, cereals and other roots and tubers. In all regions but Africa cereal production is far greater than production of potatoes and other roots and tubers. In Africa, production of roots and tubers (mainly cassava) exceeds production of cereals. In terms of per capita production and percent of cropland, the relative importance of cereals is greatest in the developed market economies, potatoes are most important in the centrally planned economies and other roots and tubers are most important in the developing market economies (Tables I.5 and I.6). Yields for all three categories -- cereals, potatoes and other roots and tubers -- are substantially higher in the developed market economies than in the centrally planned or developing economies. In relative terms, the yield gap between developed and developing countries is greatest for potatoes and lowest for other roots and tubers (Table I.7).

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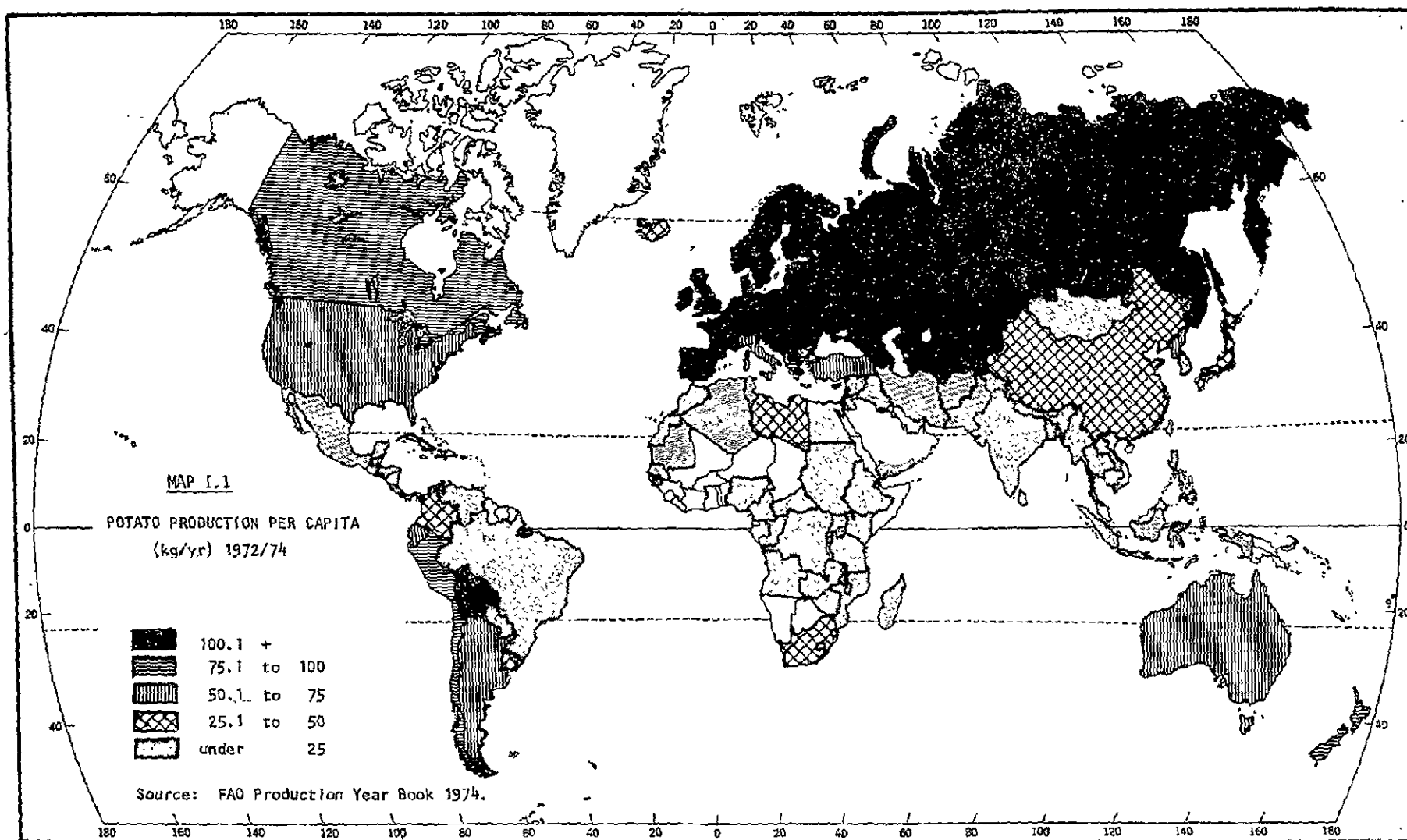
\* Other sources document traditional potato processing at high altitudes in the Himalayas and in the Andes. See, for example:

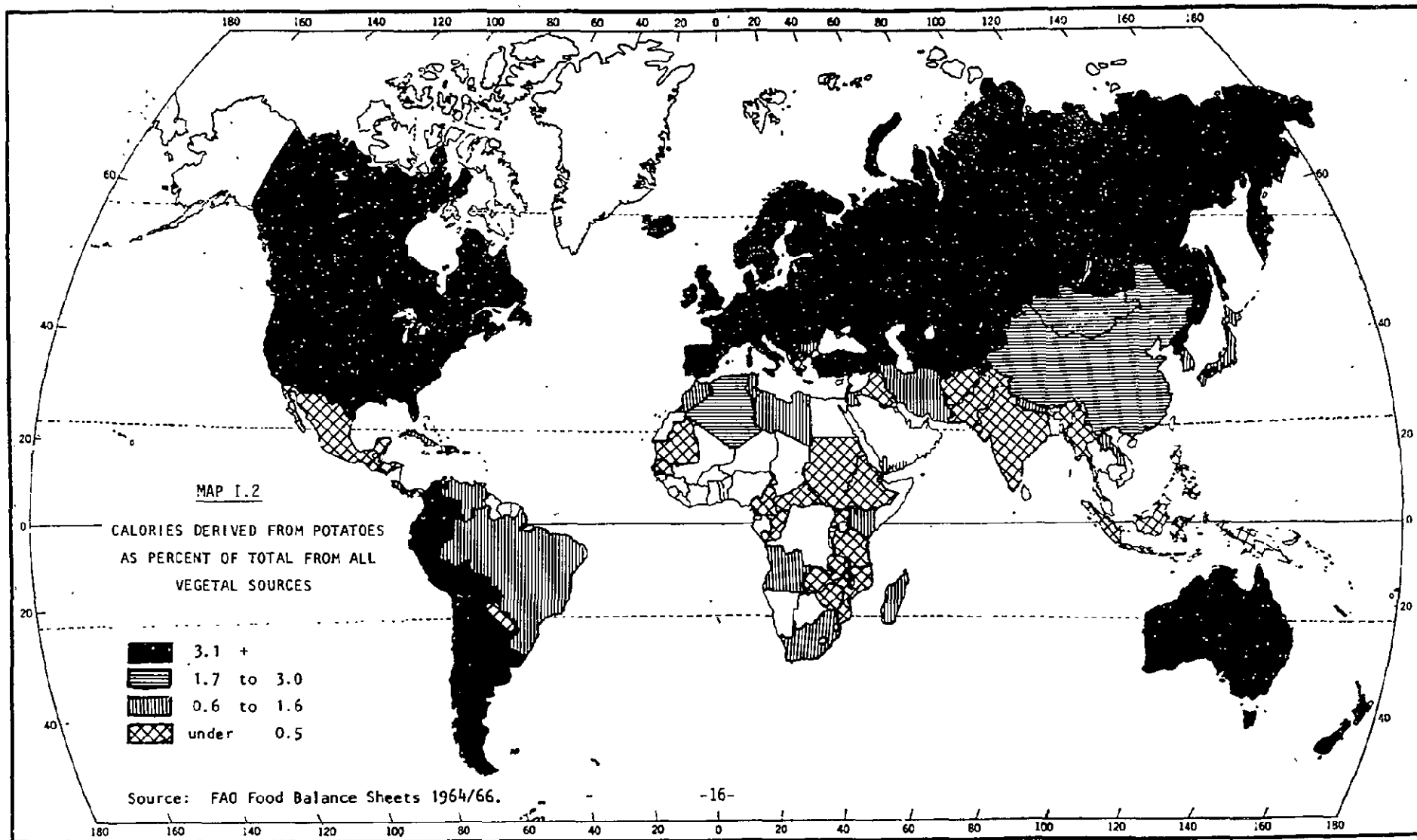
Christiansen, J. El Cultivo de la Papa en el Perú (Editorial Jurídica S.A.: Lima, Perú, 1967)

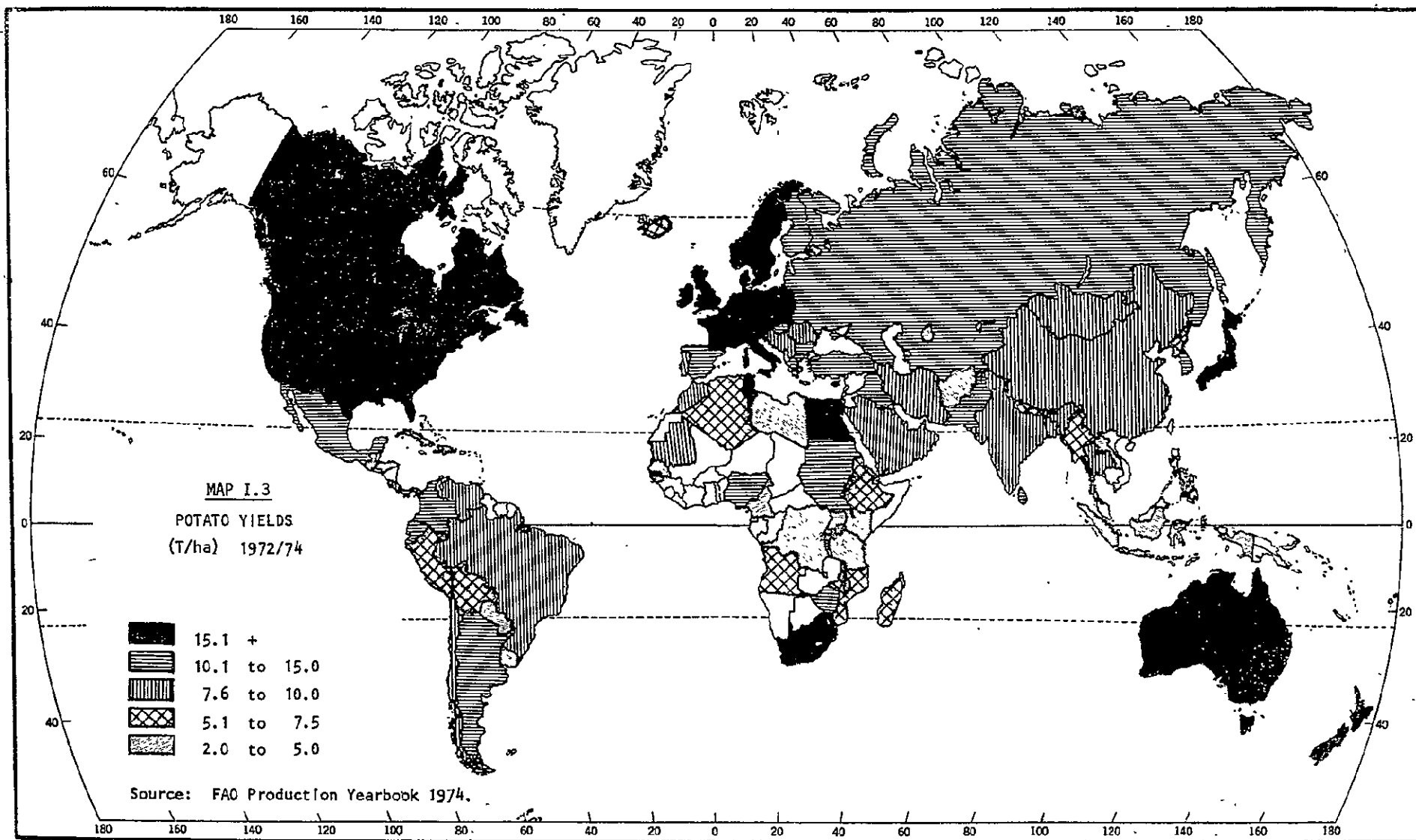
Christiansen, J. "The Utilization of Bitter Potatoes to Improve Food Production in the High Altitude of the Tropics" (unpublished Ph.D. dissertation, Cornell University: Ithaca, 1977)

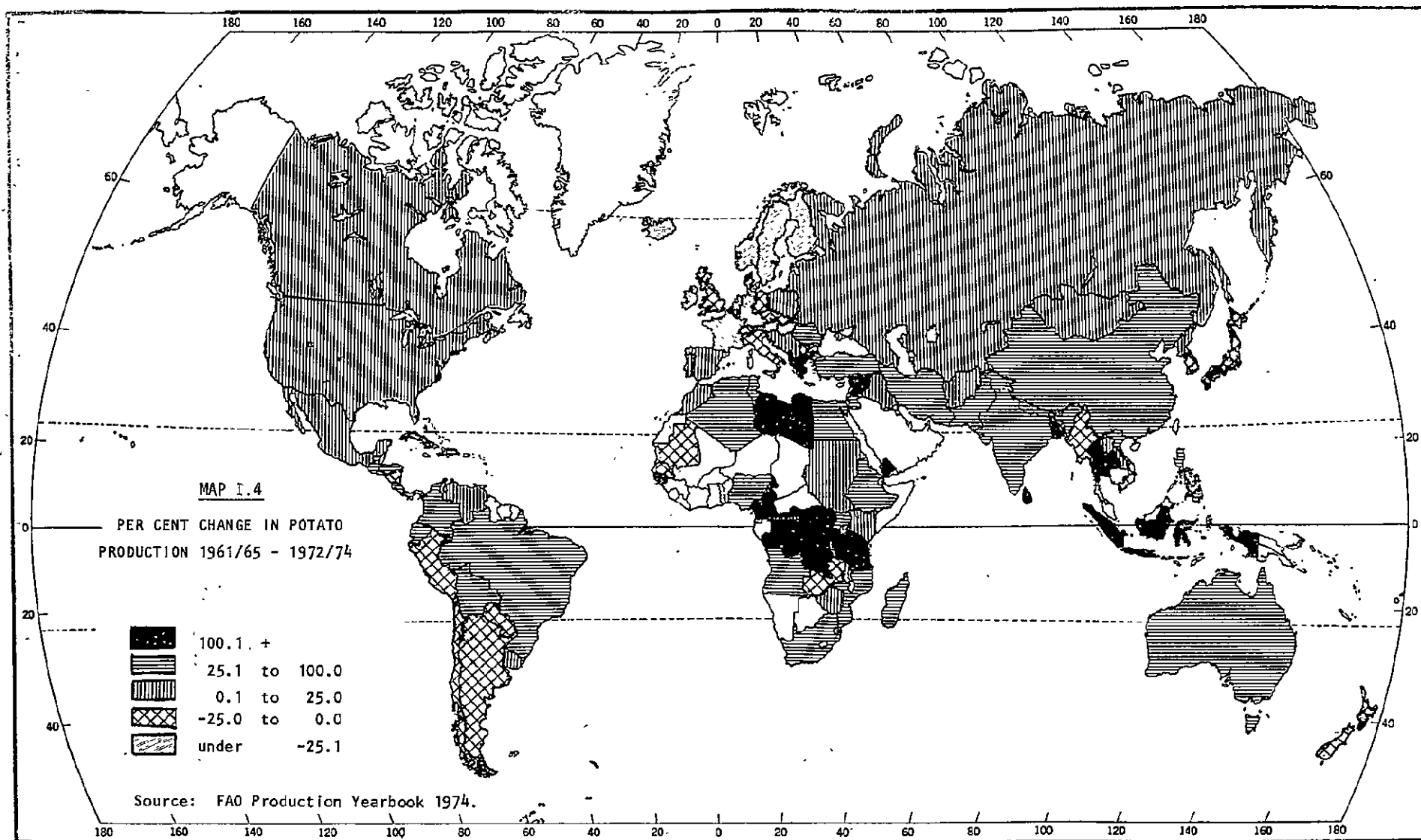
During the decade 1963-73 world cereal production increased at an average annual rate of 3.0 percent -- six times the corresponding rate for potatoes. However, in developing countries potato production grew at an average annual rate of 3.0 percent, compared to 2.5 percent for cereals and 2.6 for other roots and tubers. Potato production increased at over 4 percent per year in Asia and Africa, and at 1.3 percent in Latin America (Table I.8).

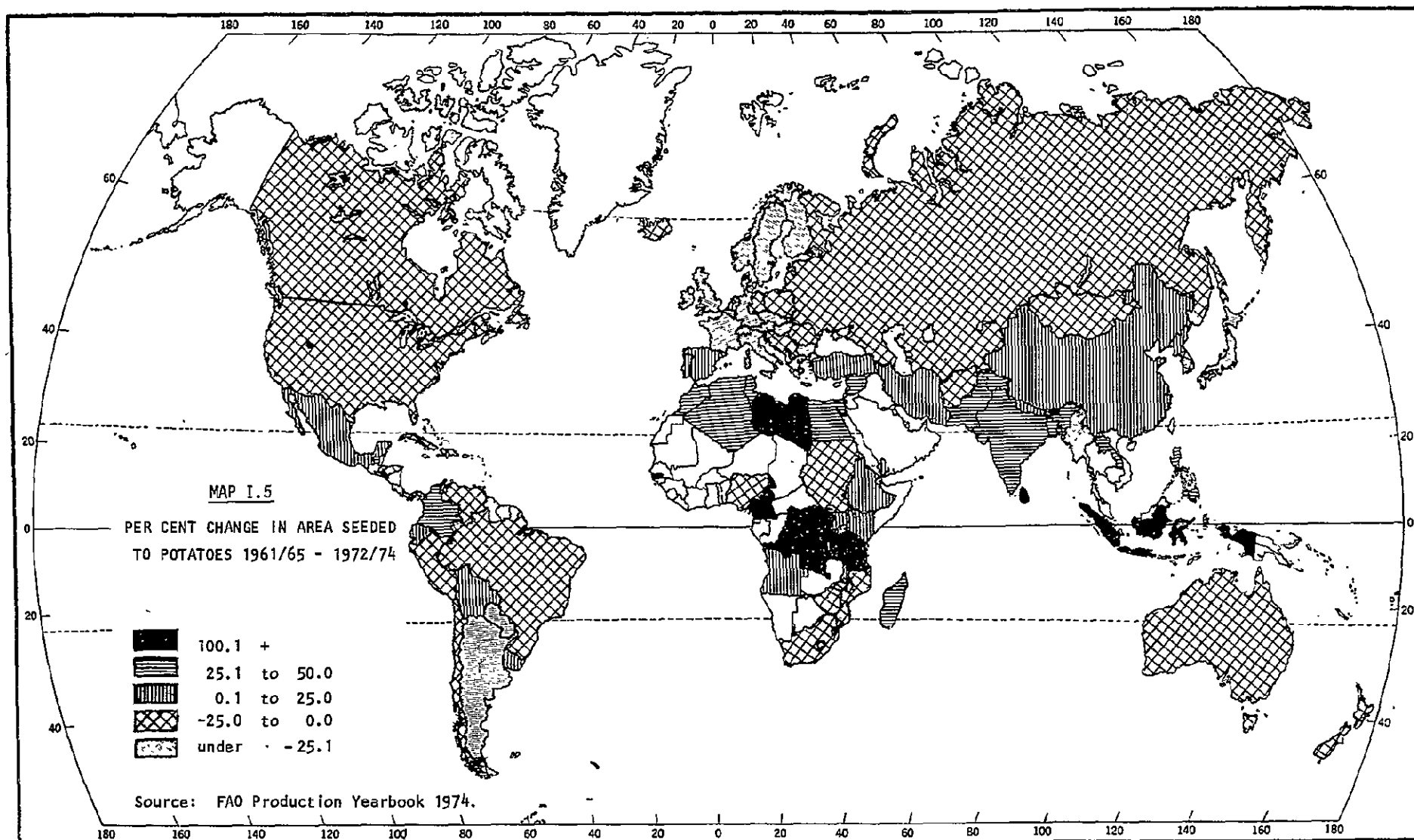
In the developing world as a whole, yield increases for cereals and potatoes exceeded the growth in area seeded to this crops. Yields of other roots and tubers fell. However, this is not the case in all countries and regions; in Latin America the area under cereals increased more rapidly than cereal yields, and in Asia and Africa the area under potatoes increased more rapidly than potato yields. (Table I.9).













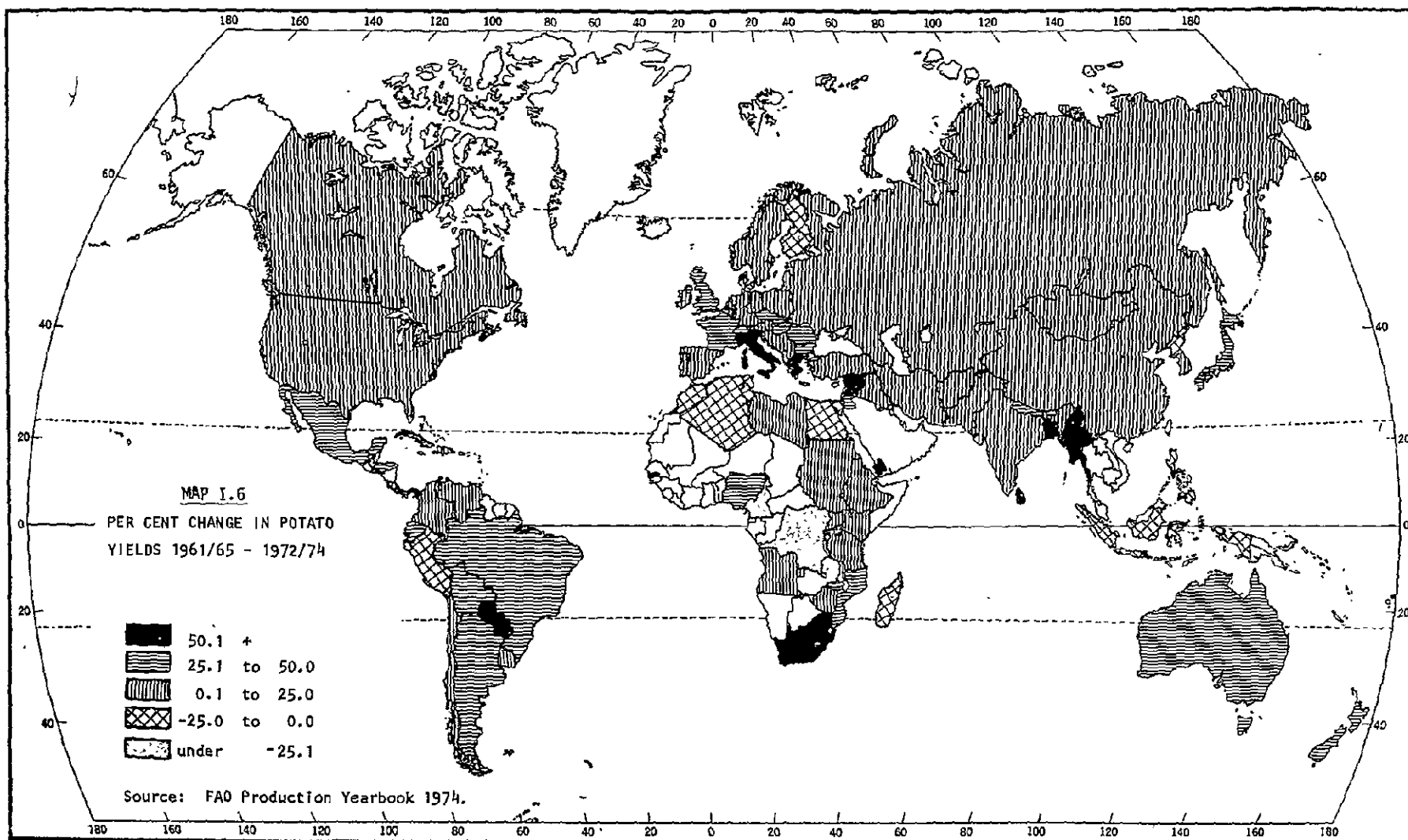
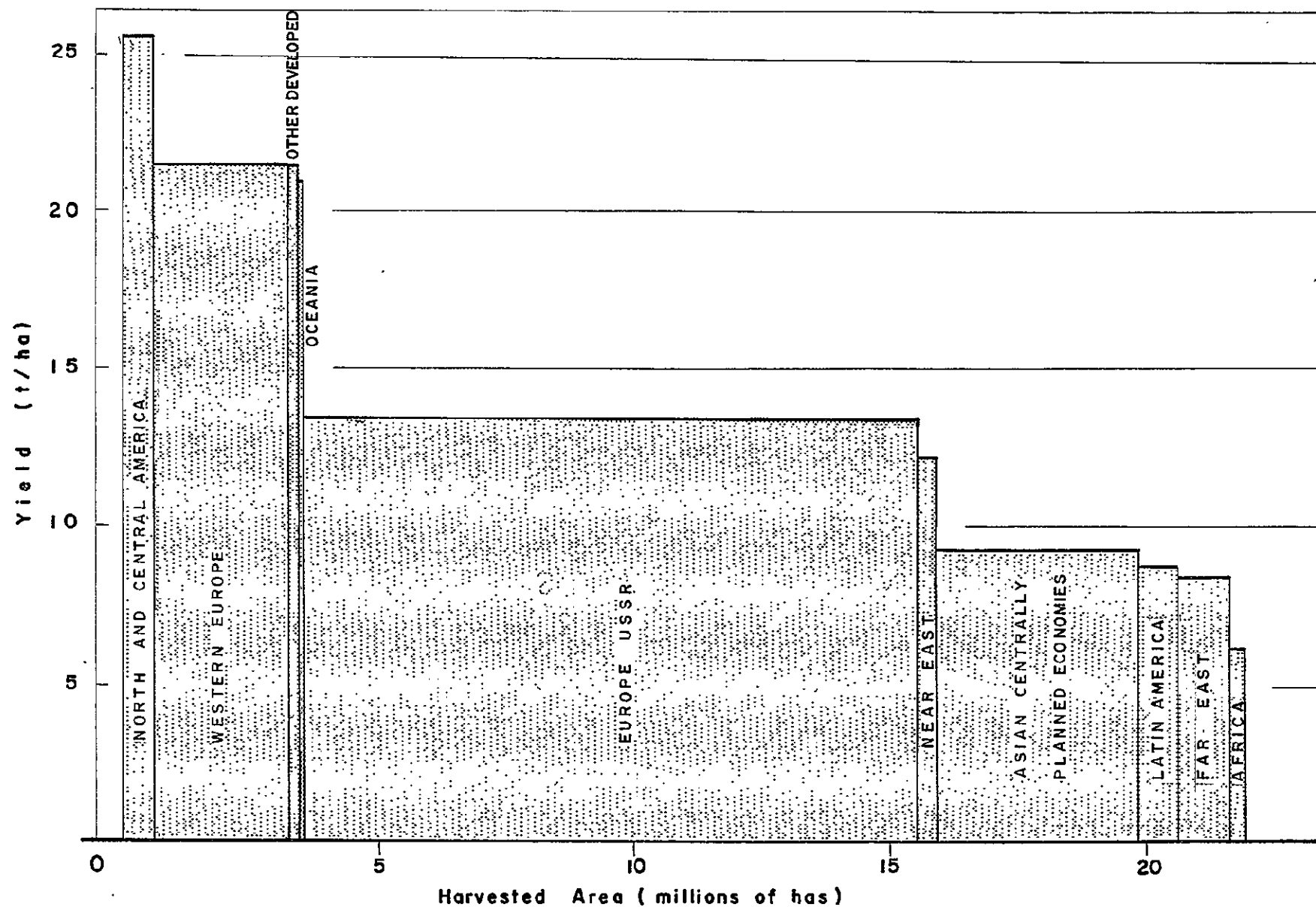


Figure 1.1: POTATO PRODUCTION BY FAO REGION 1972 / 74



**Figure 1.2: UTILIZATION OF POTATOES IN DEVELOPED, DEVELOPING AND CENTRALLY PLANNED ECONOMIES.**

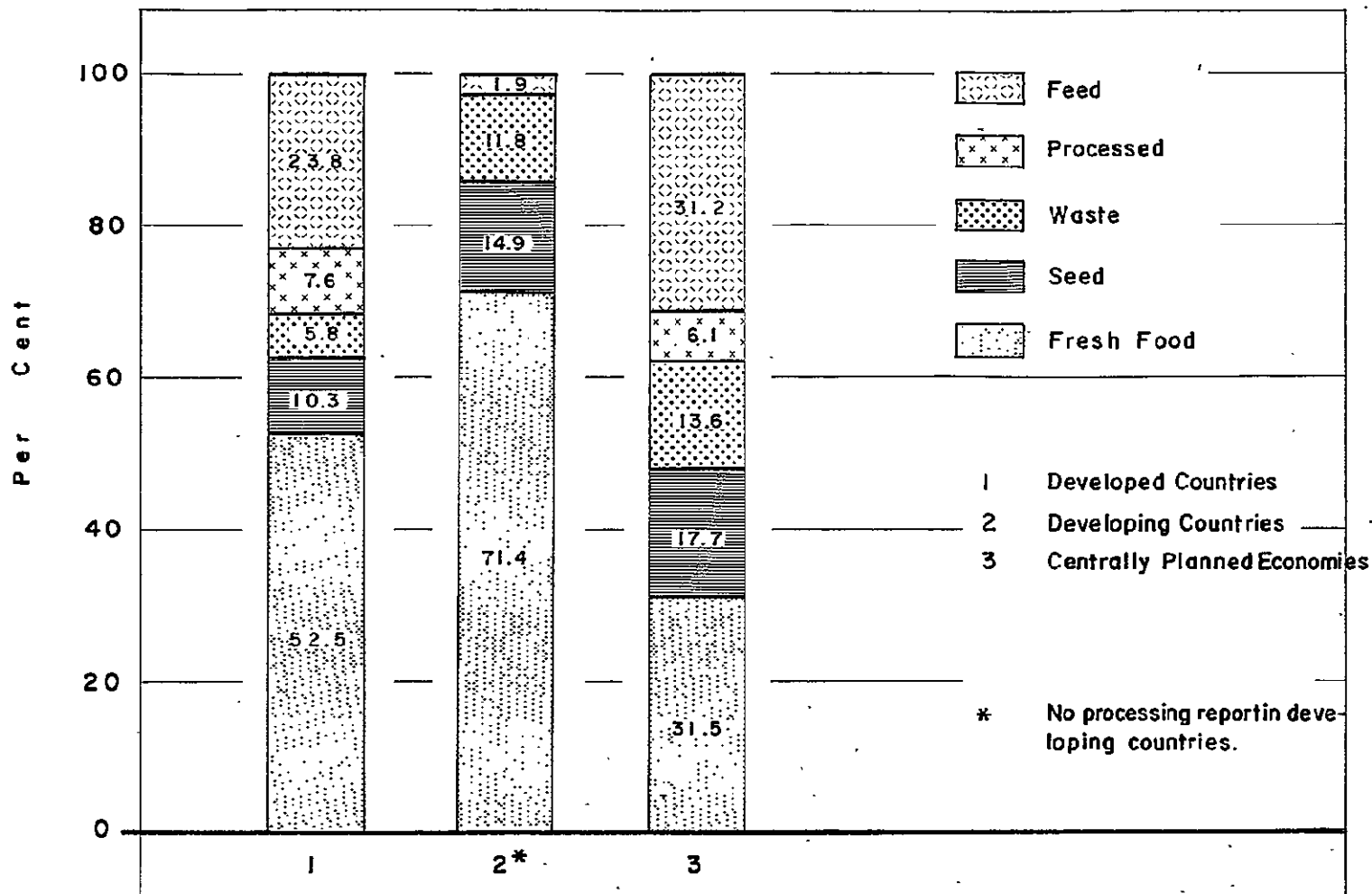


Figure 1.3: THREE YEAR MOVING AVERAGES OF POTATO PRODUCTION BY FAO REGION

1934/38 — 1974/76 \*

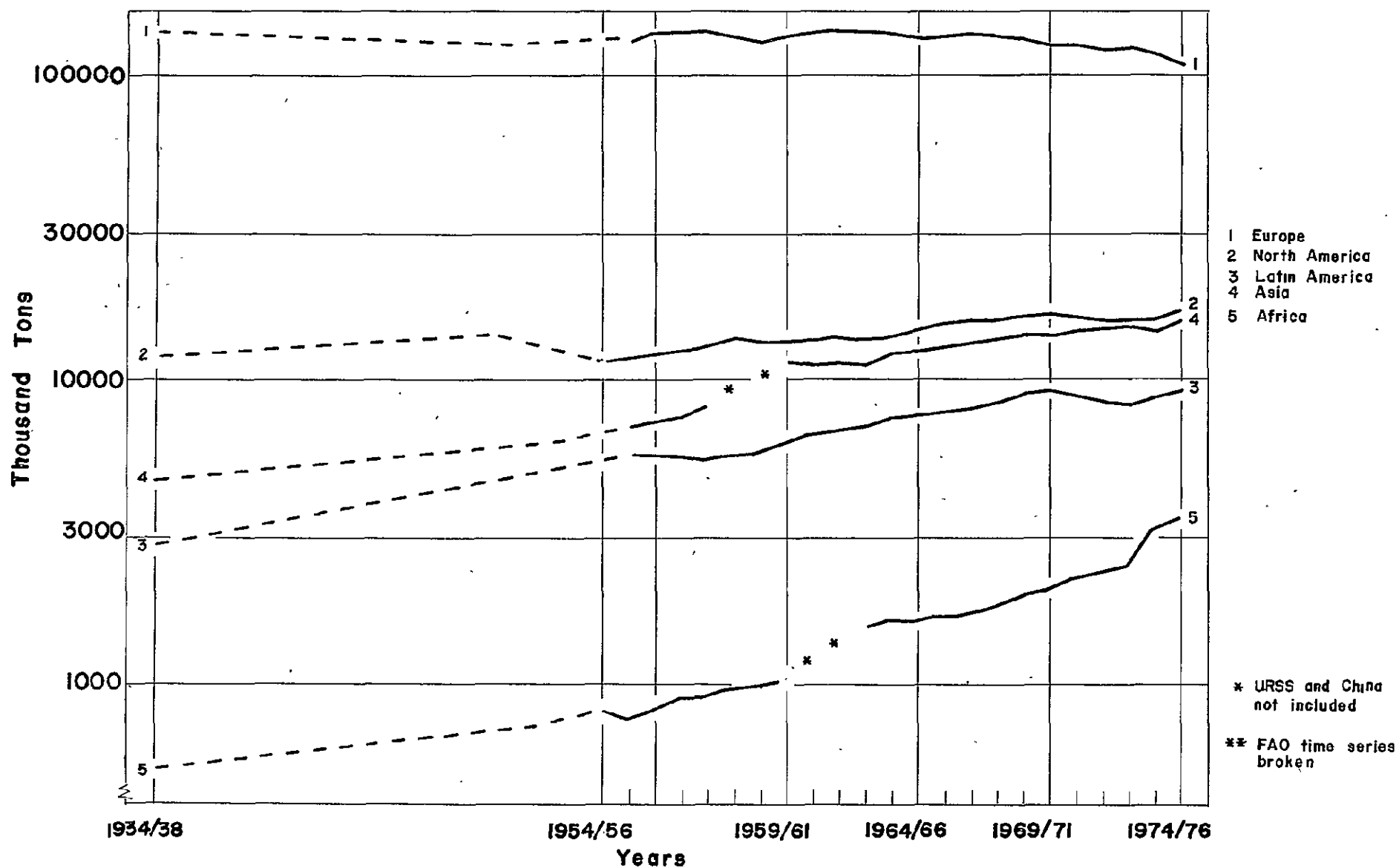
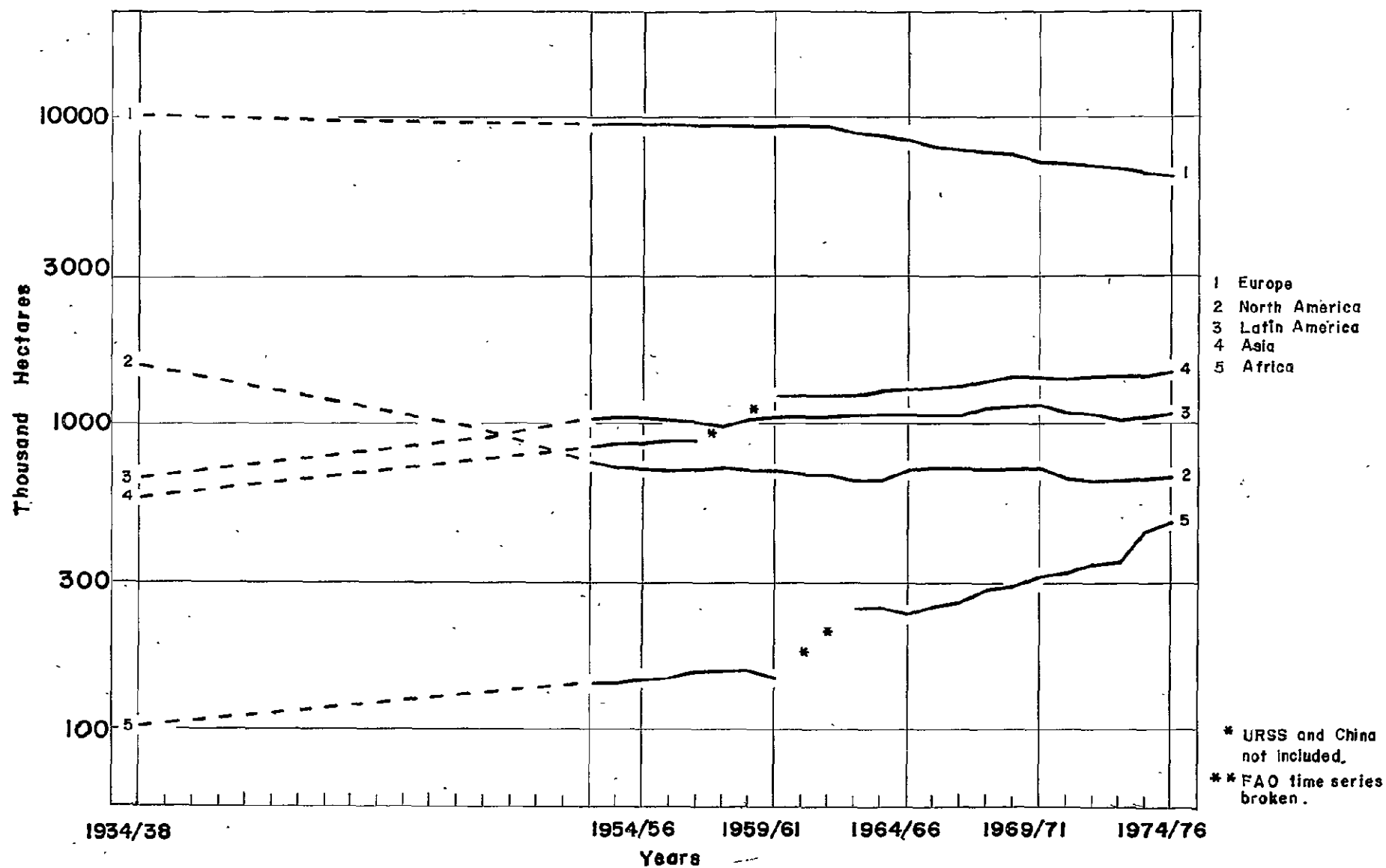


Figure 1.4 : THREE YEAR MOVING AVERAGES OF AREA IN POTATOES BY FAO  
REGION 1934/38 - 1974/76 \*



**Figure 1.5: THREE YEAR MOVING AVERAGES OF POTATO YIELDS BY FAO REGION  
1934/38 - 1974/76 \***

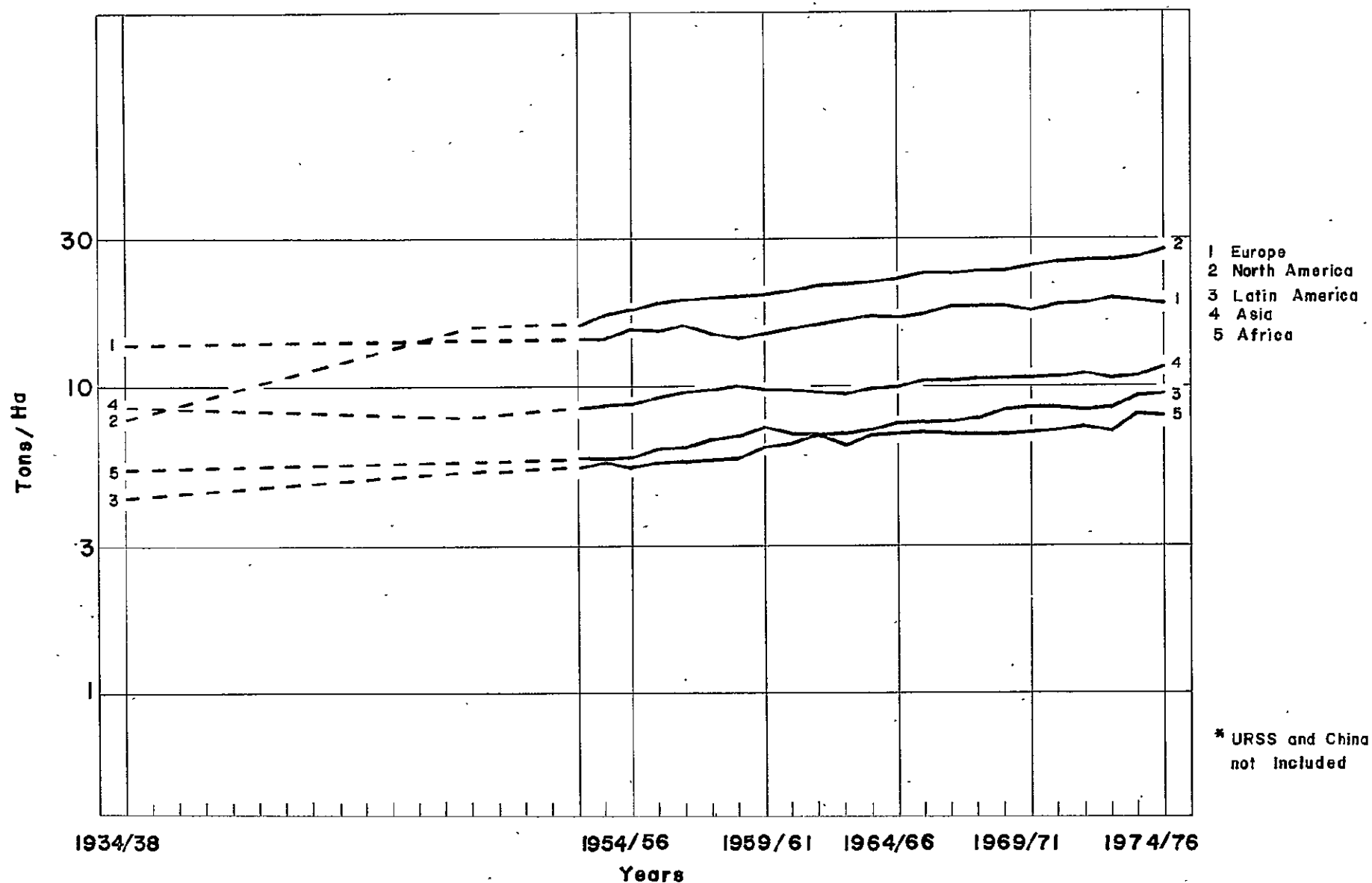


Table I.1: FAO REGIONS - POTATO PRODUCTION 1972/74 AND PER CENT CHANGE 1961/65 - 1972/74

REGION	Averages 1972/74			Per cent Change		
	Area thousand hectares	Production thousand tons	Yield t/ha	Area	Production	Yield
World .	21,915	296,731	13.5	- 7.7	4.8	13.4
Developed Countries	3,496	77,626	22.2	-29.8	-15.1	20.6
North America	638	16,350	25.6	- 4.8	13.1	18.5
West Europe	2,625	56,306	21.4	-34.2	-21.7	18.9
Oceania	46	966	21.0	- 9.8	20.3	33.8
Other Developed	187	4,003	21.4	-29.4	- 6.5	32.1
Developing Countries	2,401	21,101	8.8	14.4	34.7	17.3
Africa	299	1,852	6.2	52.6	54.1	1.6
Latin America	1,007	8,582	8.5	- 4.0	15.3	19.7
Near East	326	3,966	12.2	33.1	51.2	14.0
Far East	768	6,695	8.7	26.3	56.1	22.5
Other Developing	1	5	5.0	---	66.7	---
Centrally Planned Econ.	16,018	198,005	12.4	- 3.8	12.5	17.0
Asian CPE	3,936	36,454	9.3	17.2	30.4	12.0
Europe USSR	12,082	161,551	13.4	- 9.2	9.1	20.7

Source: FAO Production Yearbook, 1974 (Rome, 1975).

Table I.2: FAO REGIONS - POTATO BALANCE SHEETS 1972/74

REGION	Potato Production	Export	Import	Domestic Availability	Feed	Seed	Waste	Processed	Fresh Food
	(.....thousand tons.....)				(....per cent of Domestic Availability.....)				
Developed Countries	77,627	2,887	2,417	77,157	23.8	10.3	5.8	7.6	52.5
North America	16,351	323	185	16,213	8.9	7.8	4.6	12.6	66.1
West Europe	56,307	2,529	2,219	55,997	29.0	11.1	6.4	5.2	48.4
Oceania	966	20	0	946	5.5	9.2	3.4	0.0	81.9
Other Developed	4,003	15	13	4,001	15.5	10.2	3.4	23.0	47.9
Developing Countries	21,104	439	572	21,237	1.9	14.9	11.8	0.0	71.4
Africa	1,854	105	152	1,901	0.1	16.3	10.4	0.0	73.3
Latin America	8,581	18	292	8,855	2.3	15.4	10.4	0.0	71.9
Near East	3,968	304	97	3,761	1.9	12.2	9.8	0.0	76.1
Far East	6,697	12	9	6,694	2.0	15.3	15.2	0.0	67.5
Other Developing	4	---	22	26	0.0	19.2	0.0	0.0	80.8
Centrally Planned Econ.	197,979	947	845	197,877	31.2	17.7	13.6	6.1	31.5
Asian CPE	36,429	43	0	36,386	19.4	9.3	10.0	4.9	56.5
Europe USSR	161,550	904	845	161,491	33.8	19.6	14.4	6.3	25.8

Sources: FAO Production Yearbook, 1974 (Rome, 1975). IBRD Economic Analysis and Projections Department.  
FAO Food Balance Sheets, 1964-66 (Rome, 1971).



**Table I.3: WORLD POTATO PRODUCTION BY COUNTRY 1972/74 AND PER CENT CHANGE IN AREA, PRODUCTION AND YIELD 1961/65 - 1972/74**

(Page 1 of 6)

COUNTRY	Averages 1972/74				Per cent Change 1961/65-72/74		
	Area thousand hectares	Production thousand tons	Yield t/ha	Per Capita production kg/yr	Area	Production	Yield
WORLD	21,915	296,731	13.5	77.6	-7.7	4.8	13.4
AFRICA	397	3,284	8.3	8.8	47.0	62.3	10.7
Algeria	46F	337F	7.3	22.9	84.0	50.4	-18.9
Angola	5F	35F	7.0	6.1	25.0	52.2	20.7
Burundi	20F	219F	11.0	61.2	122.2	204.2	37.5
Cameroon	15F	39F	2.6	6.3	400.0	129.4	-54.4
Central Afr. Rep.	---	---	---	---	---	---	---
Congo	---	3F	---	2.5	---	200.0	---
Egypt	41F	715F	17.4	20.1	70.8	80.1	5.4
Ethiopia	32F	170F	5.3	6.4	18.5	26.9	6.0
Kenya	55F	213F	3.9	17.1	7.8	10.4	2.6
Libyan Arab Rep.	15F	69F	4.6	31.9	400.0	475.0	15.0
Madagascar	21F	125F	6.0	15.1	75.0	45.3	-16.7
Malawi	1F	3F	3.0	0.6	0.0	0.0	0.0
Mauritania	---	2F	---	1.6	---	0.0	---
Mauritius	1F	10F	10.0	11.6	---	150.0	---
Morocco	28F	231F	8.2	14.5	33.3	10.0	-18.0
Mozambique	3F	18F	6.0	2.2	0.0	28.6	27.7
Nigeria	2F	27F	13.5	0.4	0.0	35.0	35.0
Reunion	---	2F	---	4.3	---	-33.3	---
Rhodesia	2F	23F	11.5	3.9	0.0	4.5	4.5
Rwanda	19F	130F	6.8	32.7	5.6	109.7	100.0
Senegal	1F	5F	5.0	1.2	---	0.0	---

Table I.3: WORLD POTATO PRODUCTION BY COUNTRY 1972/74 AND PER CENT CHANGE IN AREA, PRODUCTION AND YIELD 1961/65 - 1972/74

(Page 2 of 6)

COUNTRY	Averages 1972/74				Per cent Change 1961/65-72/74		
	Area thousand hectares	Production thousand tons	Yield t/ha	Per Capita production kg/yr	Area	Production	Yield
South Africa	41	624	15.2	25.7	-6.8	60.4	72.7
Sudan	2F	24F	12.0	1.4	0.0	4.3	4.3
Swaziland	3F	6F	2.0	13.0	200.0	500.0	100.0
Tanzania	27F	101F	3.7	7.2	350.0	431.6	15.6
Tunisian Rep.	4F	85*	21.3	15.6	100.0	73.5	-13.1
Uganda	5F	24F	4.8	2.2	25.0	33.3	6.7
Zaire	10F	43	4.3	1.8	233.3	126.3	-31.7
Zambia	---	3F	---	0.6	---	0.0	---
N. C. AMERICA	708	17,009	24.0	50.8	-4.6	13.5	18.8
Bermuda	---	1F	---	18.2	---	0.0	---
Canada	107	2,202	20.6	99.5	-10.1	5.0	17.0
Costa Rica	4F	35F	8.8	18.7	33.3	52.2	14.3
Cuba	14F	74F	5.3	8.3	-6.7	-16.9	-10.2
Dominican Rep.	2F	26*	13.0	5.9	100.0	136.4	18.2
El Salvador	1F	9	9.0	2.4	0.0	125.0	125.0
Guadeloupe	---	---	---	---	---	---	---
Guatemala	6F	23F	3.8	4.4	50.0	27.8	-15.6
Haiti	1F	7F	7.0	1.6	---	75.0	---
Honduras	1F	3F	3.0	1.1	0.0	50.0	50.0
Jamaica	1F	11F	11.0	5.6	0.0	22.2	22.2
Mexico	40F	454*	11.3	8.1	-13.0	24.0	41.2
Nicaragua	---	1F	---	0.5	---	0.0	---
Panama	1F	13F	13.0	8.3	0.0	62.5	62.5
USA	532	14,149	26.6	67.2	-3.4	14.5	-18.8

Table I.3: WORLD POTATO PRODUCTION BY COUNTRY 1972/74 AND PER CENT CHANGE IN AREA, PRODUCTION AND YIELD 1961/65 - 1972/74

(Page 3 of 6)

COUNTRY	Averages 1972/74				Per cent Change 1961/65-72/74		
	Area thousand hectares	Production thousand tons	Yield t/ha	Per Capita production kg/yr	Area	Production	Yield
S. AMERICA	938	7,926	8.4	38.4	-4.0	13.1	16.7
Argentina	125	1,558	12.5	64.2	-30.2	-10.4	28.9
Bolivia	118*	727	6.2	136.4	6.3	33.2	26.5
Brazil	193*	1,649*	8.5	16.3	-3.5	40.0	44.1
Chile	83	771	9.3	75.4	-7.8	-2.8	5.7
Colombia	88F	1,108	12.6	49.2	31.3	52.8	16.7
Ecuador	43*	484	11.3	71.3	19.4	54.1	29.9
Paraguay	1	5	5.0	2.1	-50.0	-16.7	66.7
Peru	251	1,381	5.5	95.0	-2.0	-7.1	-5.2
Uruguay	25	123	4.9	41.1	8.7	12.8	4.2
Venezuela	12F	119	9.9	10.6	-14.3	5.3	22.2
ASIA	5,118	49,687	9.7	22.8	16.2	29.6	11.5
Afghanistan	5F	21F	4.2	1.3	0.0	5.0	5.0
Bangladesh	78	748	9.6	10.1	39.3	111.3	52.4
Bhutan	5F	32F	6.4	28.5	150.0	100.0	-20.0
Burma	9F	47F	5.2	1.6	-50.0	-11.3	79.3
China	3,765F	35,360F	9.4	43.6	17.3	30.9	11.9
Cyprus	9F	173F	19.2	272.4	0.0	50.4	50.0
India	510	4,634	9.1	8.0	27.8	57.3	23.0
Indonesia	35F	131F	3.7	1.1	105.9	107.9	0.0
Iran	53F	467	8.8	14.5	23.3	37.4	11.4
Iraq	1F	12F	12.0	1.2	0.0	20.0	20.0
Israel	6F	158F	26.3	49.2	20.0	51.9	26.4
Japan	141	3,221	22.8	29.7	-34.4	-15.0	29.5
Jordan	---	1F	---	2.4	---	92.3	---

Table 1.3: WORLD POTATO PRODUCTION BY COUNTRY 1972/74 AND PER CENT CHANGE IN AREA, PRODUCTION AND YIELD 1961/65 - 1972/74

(Page 4 of 6)

COUNTRY	Averages 1972/74				Per cent Change 1961/65-72/74		
	Area - thousand hectares	Production thousand tons	Yield t/ha	Per Capita production kg/yr	Area	Production	Yield
Korea DPR	167F	1,063F	6.4	70.7	16.0	14.9	0.0
Korea Rep.	43F	466	10.8	14.2	-14.0	-3.5	11.3
Kuwait	---	---	---	---	---	---	---
Laos	3F	15F	5.0	4.7	50.0	7.1	-28.6
Lebanon	9F	118	13.1	39.6	50.0	96.7	31.0
Nepal	51F	296	5.8	24.6	21.4	54.2	26.1
Pakistan	23	245	10.7	3.7	53.3	84.2	20.2
Philippines	4F	24F	6.0	0.6	100.0	60.0	-20.0
Port Timor	---	1	---	1.6	---	0.0	---
Sikkim	2F	9F	4.5	41.7	0.0	0.0	0.0
Sri Lanka	3*	35	11.7	2.7	200.0	775.0	192.5
Syrian Arab Rep.	8	114	14.3	16.4	100.0	200.0	50.5
Thailand	1F	10F	10.0	0.3	---	233.3	---
Turkey	178F	2,200	12.4	58.0	24.5	39.7	12.7
Vietnam DR	---	6F	---	0.3	---	50.0	---
Vietnam Rep.	---	4F	---	0.2	---	-20.0	---
Yemen Arab	5F	53F	10.6	8.5	25.0	194.4	135.6
Yemen DR	---	1	---	0.6	---	0.0	---
EUROPE	6,715	128,778	19.2	274.0	-22.4	-6.9	20.0
Albania	16F	95F	5.9	41.4	300.0	265.4	-9.2
Austria	89	2,151	24.2	285.7	-44.7	-33.1	21.0
Belgium	45	1,304	29.0	133.6	-26.2	-22.1	5.8
Bulgaria	28F	355	12.7	41.2	-31.7	-11.3	29.6
Czechoslovakia	301	4,848	16.1	332.7	-38.4	-14.0	40.0
Denmark	31	785	25.3	156.4	-47.5	-36.0	21.0
Faeroe Islands	---	1F	---	25.0	---	-50.0	---

Table I.3: WORLD POTATO PRODUCTION BY COUNTRY 1972/74 AND PER CENT CHANGE IN AREA, PRODUCTION  
AND YIELD 1961/65 - 1972/74

(Page 5 of 6)

COUNTRY	Averages 1972/74				Per cent Change 1961/65-72/74		
	Area thousand hectares	Production thousand tons	Yield t/ha	Per Capita production kg/yr	Area	Production	Yield
Finland	47	637	13.6	136.7	-98.6	-40.3	-5.6
France	317	7,484	23.6	143.5	-59.0	-43.7	37.2
German DR	649F	11,647	17.9	685.9	-10.8	-3.5	7.8
Germany Fed.	485	14,420	29.7	232.7	-46.1	-35.1	20.2
Greece	55	710	12.9	79.5	-3.5	52.4	57.3
Hungary	122*	1,368	11.2	131.2	-51.8	-31.5	41.8
Iceland	1F	7	7.0	33.3	0.0	-36.4	-36.4
Ireland	44	1,187	27.0	391.7	-45.0	-36.9	14.9
Italy	185	2,931	15.8	53.4	-49.9	-23.9	51.9
Liechtenstein	1F	10F	10.0	---	---	25.0	---
Luxembourg	2	58	29.0	165.7	-50.0	-39.6	20.8
Malta	3F	21	7.0	65.6	0.0	-8.7	-9.0
Netherlands	155	5,649	36.4	420.6	20.2	49.7	24.7
Norway	29	718	24.8	181.3	-43.1	-32.2	19.2
Poland	2,668F	50,888	19.1	1,525.4	-5.8	16.5	24.0
Portugal	112*	1,114	9.9	123.9	6.7	8.7	1.0
Port Azores	4F	30	7.5	---	33.3	30.4	-2.6
Port Madeira	4F	31	7.8	---	-42.9	-35.4	13.0
Romania	306*	3,272	10.7	157.1	-2.5	25.8	28.9
Spain	401	5,453	13.6	157.0	1.8	21.3	19.3
Sweden	45	1,083	24.1	133.0	-40.8	-32.1	14.8
Switzerland	26	940	36.2	146.2	-43.5	-17.9	45.4
United Kingdom	225	6,676	29.7	119.2	-25.5	-3.1	30.3
UK Channel I.	1	58F	58.0	439.4	-50.0	7.4	114.8

Table I.3: WORLD POTATO PRODUCTION BY COUNTRY 1972/74 AND PER CENT CHANGE IN AREA, PRODUCTION AND YIELD 1961/65 - 1972/74

(Page 6 of 6)

COUNTRY	Averages 1972/74				Per cent Change 1961/65-72/74		
	Area thousand hectares	Production thousand tons	Yield t/ha	Per Capita production kg/yr	Area	Production	Yield
UK Isle of Man	1F	13F	13.0	224.1	0.0	18.2	18.2
Yugoslavia	318	2,836	8.9	135.3	-5.1	4.6	9.9
OCEANIA	46	970	21.1	47.5	-11.5	20.5	36.1
Australia	37	727	19.6	55.4	-7.5	31.9	42.0
Fiji	---	1F	---	1.8	---	---	---
French Polynesia	---	1F	---	7.7	---	0.0	---
New Caledonia	---	1F	---	7.9	---	0.0	---
New Zealand	9F	239	26.6	80.7	-25.0	-5.2	26.7
Papua New Guinea	---	---	---	---	---	---	---
USSR	7,992	89,077	11.1	356.7	-7.5	9.1	18.1

Source: FAO Production Yearbook, 1974 (Rome, 1975).

Table I.4: POTATO BALANCE SHEETS FOR POTATO PRODUCING COUNTRIES 1972/74

(Page 1 of 6)

COUNTRY	Potato Production	Export	Import	Domestic Availability	Feed	Seed	Waste	Processed	Fresh Food
	(.....thousand tons.....)				(...per cent of Domestic Availability..)				
AFRICA	3,286	210	170	3,246	2.5	15.5	9.0	0.0	73.0
Algeria	337F	8	76	405	0.0	15.0	10.7	0.0	74.3
Angola	35F	1	s.n.	34	0.0	9.3	9.3	0.0	81.4
Burundi	219F	---	s.n.	219	0.0	12.5	9.1	0.0	78.4
Cameroon	39F	s.n.	s.n.	39	0.0	10.0	10.0	0.0	80.0
Central Afr. Rep.	---	---	s.n.	---	---	---	---	---	---
Congo	3F	0	s.n.	3	0.0	0.0	10.0	0.0	90.0
Egypt	715F	95	12	632	---	---	---	---	---
Ethiopia	170F	2	s.n.	168	0.0	17.5	5.1	0.0	77.4
Kenya	213F	3	1	211	0.0	22.5	20.9	0.0	56.7
Libyan Arab Rep.	69F	0	2	71	0.0	18.3	4.2	0.0	77.5
Madagascar	125F	s.n.	0	125	0.0	10.3	6.4	0.0	83.3
Malawi	3F	s.n.	s.n.	3	0.0	33.3	0.0	0.0	66.7
Mauritania	2F	---	2	4	0.0	0.0	0.0	0.0	100.0
Mauritius	10F	s.n.	2	12	0.0	10.0	10.0	0.0	80.0
Morocco	231F	81	31	181	0.0	22.8	15.3	0.0	61.9
Mozambique	18F	1	4	21	4.8	9.5	4.8	0.0	81.0
Nigeria	27F	---	s.n.	27	0.0	0.0	0.0	0.0	100.0
Reunion	2F	0	1	3	---	---	---	---	---
Rhodesia	23F	3	0	20	0.0	10.5	5.3	0.0	84.2
Rwanda	130F	0	0	130	0.0	31.8	9.1	0.0	59.1
Senegal	5F	2	16	19	0.0	6.7	13.3	0.0	80.0
South Africa	624	10	4	618	10.0	13.6	5.2	0.0	71.2
Sudan	24F	s.n.	s.n.	24	0.0	7.7	11.5	0.0	80.8

Table I.4: POTATO BALANCE SHEETS FOR POTATO PRODUCING COUNTRIES 1972/74

(Page 2 of 6)

COUNTRY	Potato Production	Export	Import	Domestic Availability	Feed	Seed	Waste	Processed	Fresh Food
	(.....thousand tons.....)				(...per cent of Domestic Availability..)				
Swaziland	6F	---	---	6	---	---	---	---	---
Tanzania	101F	1	1	101	0.0	15.0	5.0	0.0	80.0
Tunisian Rep.	85*	3	13	95	0.0	5.2	10.3	0.0	84.5
Uganda	24F	s.n.	2	26	0.0	24.0	0.0	0.0	76.0
Zaire	43	s.n.	3	46	---	---	---	---	---
Zambia	3F	---	s.n.	3	0.0	0.0	0.0	0.0	100.0
N. C. AMERICA	17,008	336	267	16,939	8.5	7.8	4.8	12.1	66.8
Bermuda	1F	---	2	3	---	---	---	---	---
Canada	2,202	118	132	2,216	0.0	6.4	16.6	0.0	77.0
Costa Rica	35F	s.n.	s.n.	35	0.0	10.5	10.1	0.0	79.4
Cuba	74F	---	40	114	2.1	5.0	9.9	0.0	83.0
Dominican Rep.	26*	---	1	27	0.0	5.6	11.1	0.0	83.3
El Salvador	9	0	8	17	0.0	9.2	6.2	0.0	84.6
Guadeloupe	---	---	5	5	---	---	---	---	---
Guatemala	23F	10	s.n.	13	0.0	28.1	16.5	0.0	55.4
Haiti	7F	---	---	7	0.0	0.0	0.0	0.0	100.0
Honduras	3F	s.n.	1	4	0.0	2.0	12.0	0.0	86.0
Jamaica	11F	2	3	12	0.0	6.7	6.7	0.0	86.7
Mexico	454*	1	8	461	0.0	8.7	10.0	0.0	81.3
Nicaragua	1F	s.n.	13	14	0.0	7.7	11.5	0.0	80.8
Panama	13F	s.n.	1	14	0.0	7.2	7.1	0.0	85.7
USA	14,149	205	53	13,997	10.3	8.0	2.7	14.6	64.4



Table I.4: POTATO BALANCE SHEETS FOR POTATO PRODUCING COUNTRIES 1972/74

(Page 3 of 6)

COUNTRY	Potato Production	Export	Import	Domestic Availability	Feed	Seed	Waste	Processed	Fresh Food
	(.....thousand tons.....)				(...per cent of Domestic Availability..)				
S. AMERICA	7,925	5	212	8,132	2.5	16.0	10.4	0.0	71.1
Argentina	1,558	s.n.	159	1,717	0.0	8.7	8.1	0.0	83.2
Bolivia	727	s.n.	s.n.	727	5.1	18.7	7.0	0.0	69.2
Brazil	1,649*	5	18	1,662	0.0	28.1	10.1	0.0	61.8
Chile	771	0	3	774	0.0	16.3	8.9	0.0	74.8
Colombia	1,108	s.n.	0	1,108	10.1	8.8	10.1	0.0	71.0
Ecuador	484*	---	---	484	5.0	12.3	7.0	0.0	75.6
Paraguay	5	---	s.n.	5	0.0	40.0	0.0	0.0	60.0
Peru	1,381	s.n.	6	1,387	0.0	18.4	18.0	0.0	63.6
Uruguay	123	0	15	138	14.6	0.0	7.7	0.0	77.7
Venezuela	119	0	11	130	5.7	8.5	9.9	0.0	75.9
ASIA	49,665	269	101	49,497	15.8	10.2	10.3	5.5	58.2
Afghanistan	21F	s.n.	---	21	0.0	25.0	10.0	0.0	65.0
Bangladesh	748	---	3	751	---	---	---	---	---
Bhutan	32F	s.n.	---	32	---	---	---	---	---
Burma	47F	0	---	47	0.0	17.1	9.8	0.0	73.2
China	35,360F	42	0	35,318	20.0	9.1	10.0	5.0	55.9
Cyprus	173F	140	10	43	25.7	17.0	17.9	0.0	39.4
India	4,634	4	1	4,631	0.0	16.5	17.0	0.0	66.5
Indonesia	131F	4	s.n.	127	0.0	17.1	4.9	0.0	78.0
Iran	467	12	s.n.	455	0.0	6.6	10.6	0.0	82.8
Iraq	12F	1	26	37	0.0	3.2	9.7	0.0	87.1

Table I.4: POTATO BALANCE SHEETS FOR POTATO PRODUCING COUNTRIES 1972/74

(Page 4 of 6)

COUNTRY	Potato Production	Export	Import	Domestic Availability	Feed	Seed	Waste	Processed	Fresh Food
	(.....thousand tons.....)				(...per cent of Domestic Availability..)				
Israel	158F	5	8	161	0.5	11.1	2.0	4.0	82.4
Japan	3,221	s.n.	1	3,222	17.3	9.5	3.1	28.4	41.7
Jordan	1F	1	17	17	0.0	5.7	10.7	0.0	83.6
Korea DPR	1,063	---	---	1,063	0.0	14.9	10.0	0.0	75.1
Korea Rep.	466	s.n.	s.n.	466	0.7	9.5	10.0	0.0	79.9
Kuwait	---	1	15	14	---	---	---	---	---
Laos	15F	---	s.n.	15	---	---	---	---	---
Lebanon	118	34	1	85	0.0	0.0	6.6	0.0	93.4
Nepal	296	1	2	297	0.0	18.5	19.2	0.0	62.3
Pakistan	245	2	s.n.	243	0.0	14.3	9.9	0.0	75.8
Philippines	24F	s.n.	s.n.	24	0.0	17.6	5.9	0.0	76.5
Port Timor	1	---	s.n.	1	---	---	---	---	---
Sikkim	9F	1	---	8	---	---	---	---	---
Sri Lanka	35	s.n.	3	38	---	---	---	---	---
Syrian Arab Rep.	114	1	14	127	0.0	6.9	10.3	0.0	82.8
Thailand	10F	s.n.	s.n.	10	0.0	16.7	16.7	0.0	66.7
Turkey	2,200	14	s.n.	2,186	2.0	13.0	10.0	0.0	75.0
Vietnam DR	6F	1	---	5	---	---	---	---	---
Vietnam Rep.	4F	---	0	4	0.0	16.7	0.0	0.0	83.3
Yemen Arab	53F	5	---	48	0.0	10.0	10.0	0.0	80.0
Yemen DR	1	0	s.n.	1	0.0	0.0	5.0	0.0	95.0
EUROPE	128,780	3,408	2,634	128,006	40.7	12.8	10.8	6.6	29.1
Albania	95F	---	---	95	0.0	12.1	9.1	0.0	78.8

Table I.4: POTATO BALANCE SHEETS FOR POTATO PRODUCING COUNTRIES 1972/74

(Page 5 of 6)

COUNTRY	Potato Production	Export	Import	Domestic Availability	Feed	Seed	Waste	Processed	Fresh Food
	(.....thousand tons.....)				(...per cent of Domestic Availability..)				
Austria	2,151	22	25	2,154	58.7	9.7	9.8	3.3	18.5
Belgium1/	1,362	180	175	1,357	18.2	5.7	8.4	0.0	67.7
Bulgaria	355	24	28	359	13.7	25.3	8.4	3.6	49.0
Czechoslovakia	4,848	130	232	4,950	31.9	17.4	6.0	19.9	24.8
Denmark	785	39	20	766	24.3	9.8	10.4	11.8	43.7
Faeroe Islands	1F	---	2	3	---	---	---	---	---
Finland	637	s.n.	12	649	33.7	16.2	0.0	6.8	43.3
France	7,484	396	196	7,284	30.3	10.9	9.7	3.7	45.4
German DR	11,647	0	84	11,731	45.4	11.1	20.0	5.3	18.2
Germany Fed.	14,420	94	929	15,255	50.9	9.9	1.6	2.3	35.3
Greece	710	13	34	731	8.8	14.0	10.1	0.0	67.1
Hungary	1,368	23	65	1,410	22.3	24.0	10.6	2.5	40.6
Iceland	7	0	4	11	0.0	10.5	20.0	0.0	69.5
Ireland	1,187	29	4	1,162	42.2	11.3	20.7	1.2	24.6
Italy	2,931	208	437	3,160	17.0	15.9	9.0	0.5	57.6
Liechtenstein	10F	---	---	10	---	---	---	---	---
Malta	21	9	3	15	20.0	20.0	15.0	0.0	45.0
Netherlands	5,649	1,182	69	4,536	15.7	8.2	2.1	39.1	34.9
Norway	718	s.n.	11	729	32.0	11.9	15.1	8.9	32.1
Poland	50,888	647	5	50,246	55.6	13.7	14.1	7.7	8.9
Portugal	1,114	8	55	1,161	2.2	15.5	1.2	0.2	80.9
Port Azores	30	---	---	30	---	---	---	---	---
Port Madeira	31	---	---	31	---	---	---	---	---
Romania	3,272	55	1	3,218	20.0	22.3	10.1	1.0	46.6
Spain	5,453	97	116	5,472	3.0	9.4	9.9	0.0	77.7

Table 1.4: POTATO BALANCE SHEETS FOR POTATO PRODUCING COUNTRIES 1972/74

(Page 6 of 6)

COUNTRY	Potato Production	Export	Import	Domestic Availability	Feed	Seed	Waste	Processed	Fresh Food
	(.....thousand tons.....)				(...per cent of Domestic Availability..)				
Sweden	1,083	4	37	1,116	19.4	10.1	9.0	19.2	42.4
Switzerland	940	63	8	885	48.8	10.6	7.7	0.0	32.9
United Kingdom	6,676	170	80	6,586	12.7	10.4	4.5	0.0	72.4
UK Channel I.	58F	---	---	58	---	---	---	---	---
UK Isle of Man	13F	---	---	13	---	---	---	---	---
Yugoslavia	2,836	15	2	2,823	20.5	22.0	13.1	0.3	44.1
OCEANIA	969	20	20	969	5.5	9.2	3.4	0.0	81.9
Australia	727	11	0	716	4.1	8.2	0.0	0.0	87.7
Fiji	1F	---	7	8	---	---	---	---	---
French Polynesia	1F	0	5	6	---	---	---	---	---
New Caledonia	1F	---	3	4	---	---	---	---	---
New Zealand	239	9	---	230	10.1	12.0	14.0	0.0	64.0
Papua New Guinea	---	---	5	5	---	---	---	---	---
USSR	89,077	25	430	89,482	21.0	24.0	14.5	5.2	35.3

Sources: FAO Production Yearbook, 1974 (Rome, 1975). IBRD Economic Analysis and Projections Department.  
FAO Food Balance Sheets, 1964-66 (Rome, 1971).

1/ Belgium and Luxembourg.

Table I.5: FAO REGIONS - TOTAL AND PER CAPITA PRODUCTION OF CEREALS, POTATOES AND OTHER ROOTS AND TUBERS 1972/74

REGION	Production, thousand tons			Production Per Capita, kg/yr		
	Cereals	Potatoes	Other R.T.	Cereals	Potatoes	Other R.T.
World	1329,542	296,731	260,006	347.1	77.5	67.9
Developed Countries	453,356	77,626	2,816	609.8	104.4	3.8
North America	257,990	16,350	585	1,109.5	70.3	2.5
West Europe	152,447	56,306	76	420.3	155.2	0.2
Oceania	15,665	966	10	973.6	60.0	0.6
Other Developed	27,253	4,003	2,146	206.3	30.3	16.2
Developing Countries	381,043	21,101	145,791	203.1	11.2	77.7
Africa	42,524	1,852	71,635	143.9	6.3	242.4
Latin America	72,853	8,582	38,768	236.5	27.8	125.8
Near East	44,806	3,966	1,818	239.5	21.2	9.7
Far East	220,829	6,695	32,074	204.2	6.2	29.7
Other Developing	30	5	1,496	6.7	1.1	336.2
Centrally Planned Econ.	495,143	198,005	111,398	409.0	163.5	92.0
Asian CPE	233,146	36,454	111,398	273.1	42.7	130.5
Europe USSR	261,997	161,551	0	733.8	452.4	---

Source: FAO Production Yearbook, 1974 (Rome, 1975).

Table 1.6: FAO REGIONS - ABSOLUTE AND RELATIVE AREA IN CEREALS, POTATOES AND OTHER ROOTS AND TUBERS 1972/74

REGION	Area, thousand hectares			Per cent of Total Cropland		
	Cereals	Potatoes	Other R.T.	Cereals	Potatoes	Other R.T.
World	719,784	21,915	34,624	48.9	1.5	2.4
Developed Countries	151,770	3,496	194	38.3	0.9	0.0
North America	82,306	638	47	35.1	0.3	0.0
West Europe	46,482	2,625	7	47.9	2.7	0.0
Oceania	12,560	46	0	27.3	0.1	0.0
Other Developed	10,422	187	140	55.4	1.0	0.7
Developing Countries	299,029	2,401	18,934	44.9	0.4	2.8
Africa	53,684	299	11,510	28.9	0.2	6.2
Latin America	48,088	1,007	3,201	37.7	0.8	2.5
Near East	35,728	326	409	44.6	0.4	0.5
Far East	161,513	768	3,632	59.5	0.3	1.3
Other Developing	15	1	181	1.3	0.1	15.5
Centrally Planned Econ.	268,985	16,018	12,176	65.6	3.9	3.0
Asian CPE1/	124,937	3,936	12,176	94.9	3.0	9.2
Europe USSR	144,048	12,082	0	51.7	4.3	0.0

Source: FAO Production Yearbook, 1974 (Rome, 1975).

1/ Sum of Cols. 4 + 5 + 6 exceeds 100% due to inconsistency in original source.

Table I.7: FAO REGIONS - ABSOLUTE AND RELATIVE YIELDS OF CEREALS, POTATOES AND OTHER ROOTS AND TUBERS 1972/74

REGION	Yield, tons per hectare			Relative Yield (world=100)		
	Cereals	Potatoes	Other R.T.	Cereals	Potatoes	Other R.T.
World	1.8	13.5	8.3	100.0	100.0	100.0
Developed Countries	3.0	22.2	14.5	166.7	164.4	174.7
North America	3.1	25.6	12.4	172.2	189.6	149.4
West Europe	3.3	21.4	10.9	183.3	158.5	131.3
Oceania	1.2	21.0	---	66.7	155.6	---
Other Developed	2.6	21.4	15.3	144.4	158.5	184.3
Developing Countries	1.3	8.8	7.7	72.2	65.2	92.8
Africa	0.8	6.2	6.2	44.4	45.9	74.7
Latin America	1.5	8.5	12.1	83.3	63.0	145.8
Near East	1.3	12.2	4.4	72.2	90.4	53.0
Far East	1.4	8.7	8.8	77.8	64.4	106.0
Other Developing	2.0	5.0	8.3	111.1	37.0	100.0
Centrally Planned Econ.	1.8	12.4	9.1	100.0	91.9	109.6
Asian CPE	1.9	9.3	9.1	105.6	68.9	109.6
Europe USSR	1.8	13.4	---	100.0	99.3	---

Source: FAO Production Yearbook, 1974 (Rome, 1975).

Table 1.8: FAO REGIONS - ANNUAL AVERAGE PER CENT CHANGE IN TOTAL AND PER CAPITA PRODUCTION OF CEREALS, POTATOES AND OTHER ROOTS AND TUBERS 1961/65 - 1972/74

REGION	Production			Per Capita Production		
	Cereals	Potatoes	Other R.T.	Cereals	Potatoes	Other R.T.
World	3.0	0.5	2.3	1.0	-1.4	0.4
Developed Countries	2.8	-1.6	-9.4	1.8	-2.6	-10.2
North America	2.7	1.2	-1.5	1.6	0.1	-2.7
West Europe	3.4	-2.4	-6.6	2.6	-3.1	-6.7
Oceania	3.3	1.9	7.2	1.5	0.1	4.1
Other Developed	0.4	-0.7	-10.8	-0.9	-1.9	-12.0
Developing Countries	2.5	3.0	2.6	-0.1	0.4	-0.1
Africa	1.4	4.4	2.7	-1.1	1.9	0.1
Latin America	3.2	1.3	2.8	0.3	-1.5	-0.1
Near East	2.1	4.2	3.2	-0.8	1.3	0.3
Far East	2.6	4.6	2.0	s.n.	2.0	-0.6
Other Developing	1.1	5.2	3.2	-1.6	2.0	0.4
Centrally Planned Econ.	3.6	1.2	2.6	2.1	-0.4	1.0
Asian CPE	3.0	2.7	2.6	1.1	0.9	0.8
Europe USSR	4.3	0.9	...	3.3	-0.1	...

Source: FAO Production Yearbook, 1974 (Rome, 1975).



**Table I.9: FAO REGIONS - ANNUAL AVERAGE PERCENTAGE CHANGES IN AREA AND YIELD OF CEREALS, POTATOES AND OTHER ROOTS AND TUBERS 1961/65 - 1972/74**

REGION	Area			Yield		
	Cereals	Potatoes	Other R.T.	Cereals	Potatoes	Other R.T.
World	0.6	-0.8	3.4	1.8	1.3	0.0
Developed Countries	0.3	-3.5	-8.1	2.7	1.9	-1.5
North America	0.3	-0.5	-4.0	2.2	1.7	2.6
West Europe	-0.1	-4.1	-5.2	3.7	1.7	-1.4
Oceania	2.9	-1.0	---	0.0	3.0	---
Other Developed	-0.3	-3.4	-9.2	0.8	2.8	-1.8
Developing Countries	1.0	1.4	2.9	1.7	1.6	-0.4
Africa	1.0	4.3	3.9	0.0	0.2	-1.2
Latin America	1.8	-0.4	2.5	1.4	1.8	0.3
Near East	1.0	2.9	3.3	1.7	1.3	-0.2
Far East	0.8	2.4	0.6	2.4	2.1	1.3
Other Developing	-0.6	---	2.0	1.6	---	1.2
Centrally Planned Econ.	0.4	-0.4	1.8	3.3	1.6	0.8
Asian CPE	1.1	1.6	1.8	1.7	1.1	0.8
Europe USSR	-0.2	-1.0	---	4.1	1.9	---

Source: FAO Production Yearbook, 1974 (Rome, 1975).

## Section II

### Potato Production and Utilization in the Developing Countries

## Section II

### POTATO PRODUCTION AND UTILIZATION

#### IN THE DEVELOPING COUNTRIES

Maps II.1 and II.2 show how the developing countries have been grouped into seven CIP Regions. Figure II.1 illustrates the area, yield and total volume of production in each of the regions, and Figures II.2-4 illustrate the same for the countries of each Region. The vertical scale for yield is the same for all four figures and the horizontal scale for area, is the same for Figures II.2-4. Hence, the graphic representation of yield, area and production for individual countries and regions can be directly compared. South America, the Middle East and North Africa, and Southern Asia are the major potato producing regions of the developing world (Regions I, IV and VI). The highest recorded yields are in North Africa and the Middle East (Region IV).

Figures II.5-9 illustrate levels of total and per capita production, seeded area (total and as a percent of cropland) and yields in the 31 major potato producing countries of the developing world\*. The five largest producers, in terms of area and production, are India, Turkey, Brazil, Argentina and Peru. Per capita production is highest in Bolivia, followed by Peru, Chile, Ecuador and Argentina. When ranked in terms of the percent cropland in potatoes, the top five countries are Peru, Bolivia, Kenya, Nepal and Rwanda. Yields are highest in Egypt, followed by Colombia, Argentina, Turkey and Ecuador.

In Figures II.10-12 countries are ranked by the percent change in potato production, area and yields over the period 1961/65-1972/74. Potato production has increased by over 100 percent in six of the 31 countries, (Libyan Arab Republic, Tanzania, Burundi, Cameroon, Zaire and Bangladesh). The countries which report most growth of production also report rapid increases

\*These 31 countries, each of which has over 10,000 hectares of potatoes, produce 95% of the potatoes in the 74 countries of the seven CIP regions. Countries with less than 10,000 hectares in potatoes are not considered here due to the poor quality of their data, especially in the case of yields.

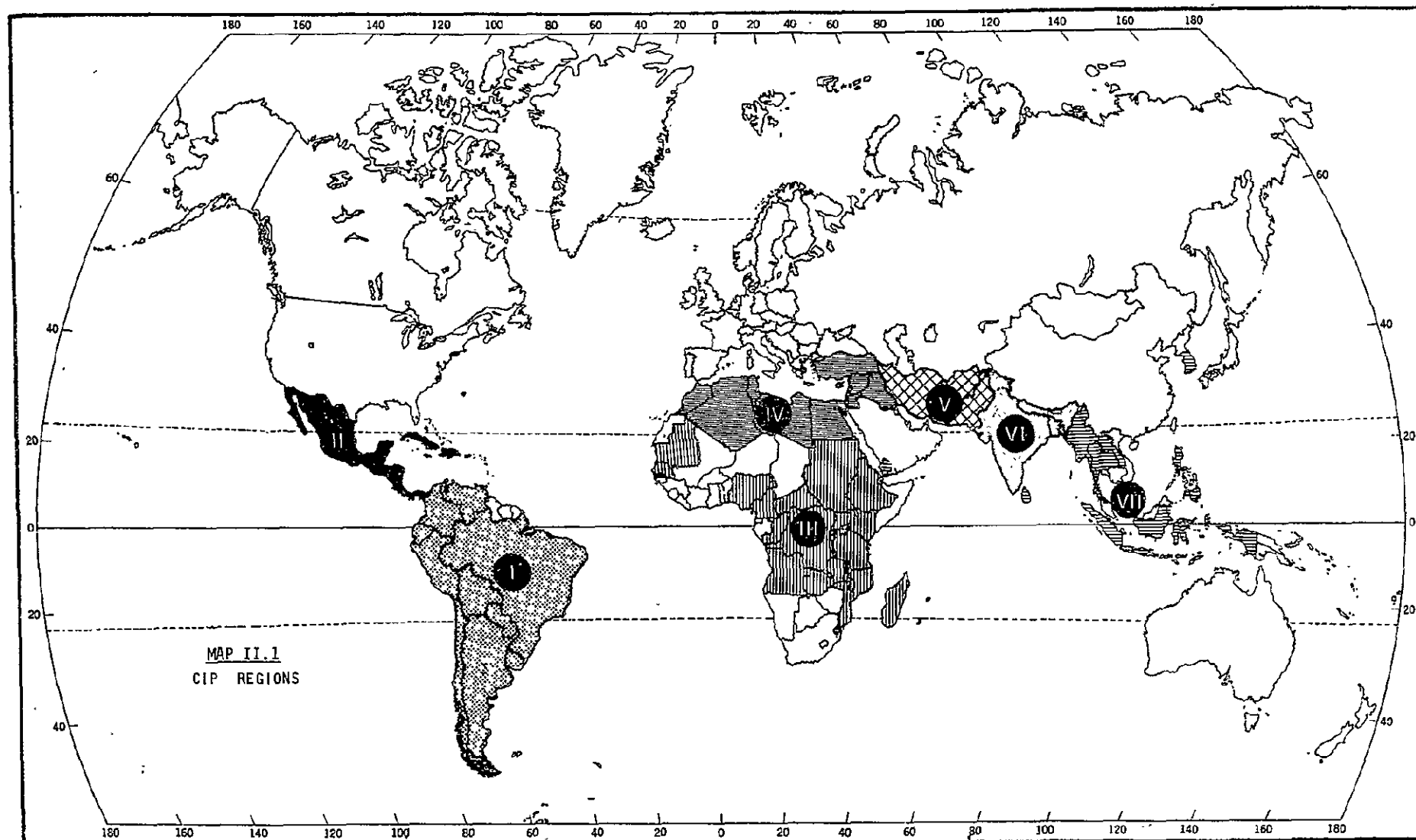
in the area seeded to potatoes. Potato yields have increased less than production and area. In only two cases (Rwanda and Bangladesh) have yields increased by as much as 50 percent. In seven of the 31 countries yields have fallen.

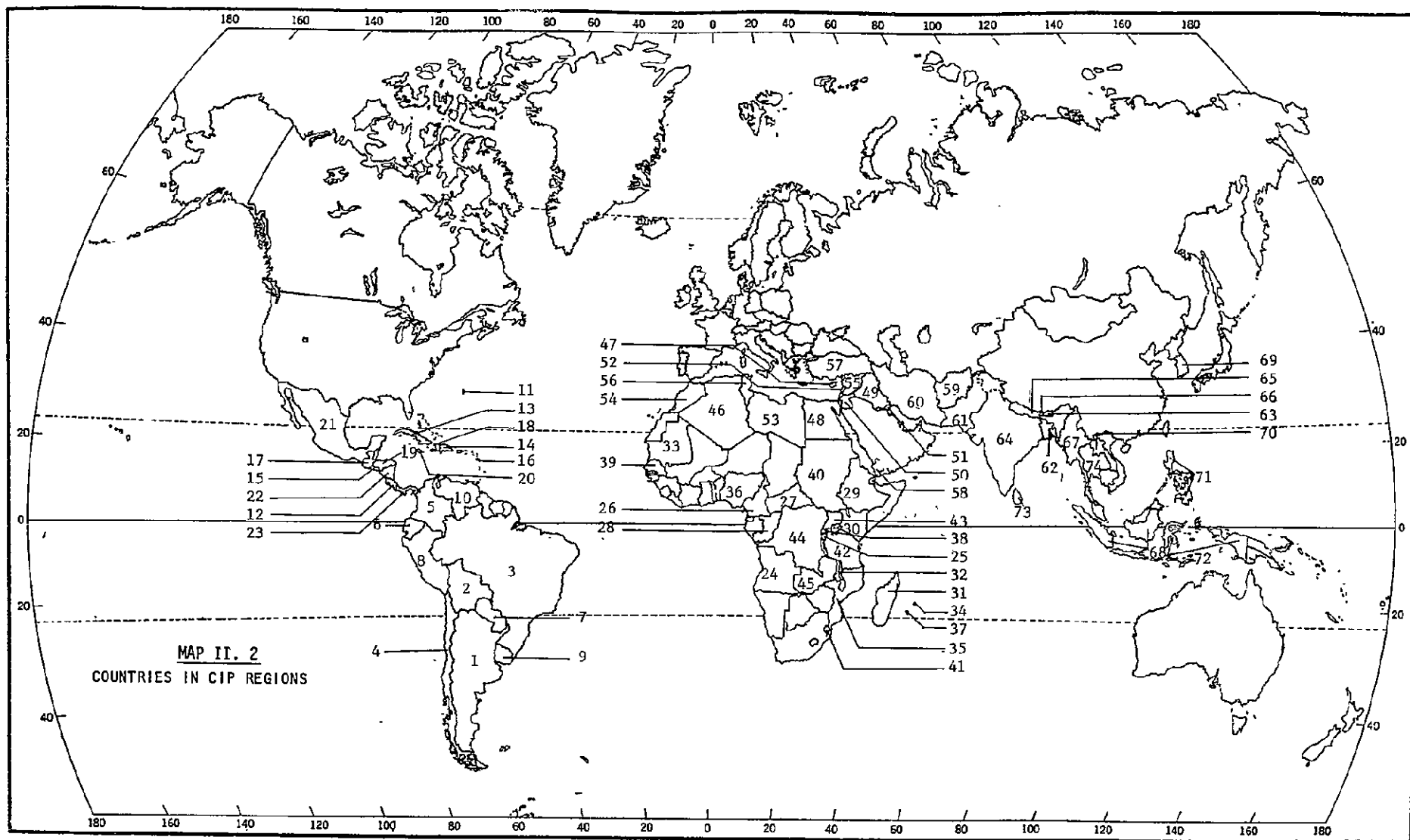
Figures II.13-27 illustrate time series of potato production, area and yield for 41 developing countries\*. The same semi-logarithmic scales are used throughout, so that equal slopes reflect equal rates of change.

Figures II.13-15 present time series beginning in 1934/38 for Latin American countries (Regions I and II). In certain countries (e.g. Brazil), production has increased throughout the entire period. In others, such as Ecuador in the 1930's and 1940's, Bolivia in the early 1950's and Cuba in the early 1960's and again in the 1970's, production has fallen sharply. In Peru and Uruguay production has been quite unstable in recent years. In most cases, production trends have been closely related to changes in the area seeded to potatoes. In recent years, the seeded area has fallen sharply in three major producers: Peru, Brazil and Argentina. In general, fluctuations in yields are smaller than fluctuations in the area seeded to potatoes. An exception to this general statement is the case of Cuba, where potato yields fell sharply in the early 1960's.

Figures II.16-27 present time series for countries in each of the seven CIP Regions for the decade 1962/64-1972/74 -- the only period for which reasonably consistent series are available for Africa and Asia.

\*These 41 countries, each with over 5,000 hectares in potatoes in 1972/74, produce 98 percent of the potatoes in the seven CIP Regions.





List of Countries

REGION I  
South America

1. Argentina
2. Bolivia
3. Brazil
4. Chile
5. Colombia
6. Ecuador
7. Paraguay
8. Peru
9. Uruguay
10. Venezuela

REGION II  
Central America  
and the Caribbean

11. Bermuda
12. Costa Rica
13. Cuba
14. Dominican Republic
15. El Salvador
16. Guadeloupe
17. Guatemala
18. Haiti
19. Honduras
20. Jamaica
21. Mexico
22. Nicaragua
23. Panama

REGION III  
Tropical Africa

24. Angola
25. Burundi
26. Cameroon
27. Central Afr. Rep.
28. Congo
29. Ethiopia
30. Kenya
31. Madagascar
32. Malawi
33. Mauritania
34. Mauritius
35. Mozambique
36. Nigeria
37. Reunion
38. Rwanda
39. Senegal
40. Sudan
41. Swaziland
42. Tanzania
43. Uganda
44. Zaire
45. Zambia

REGION IV  
Middle East and  
North Africa

46. Algeria
47. Cyprus
48. Egypt
49. Iraq
50. Jordan
51. Kuwait
52. Lebanon
53. Libyan Arab Rep.
54. Morocco
55. Syrian Arab Rep.
56. Tunisian Rep.
57. Turkey
58. Yemen Arab

REGION V  
Southwest Asia

59. Afghanistan
60. Iran
61. Pakistan

REGION VI  
Southern Asia

62. Bangladesh
63. Bhutan
64. India
65. Nepal
66. Sikkim

REGION VII  
Southeast Asia

67. Burma
68. Indonesia
69. Korea Rep.
70. Laos
71. Philippines
72. Port Timor
73. Sri Lanka
74. Thailand

Figure II.1 : POTATO PRODUCTION IN SEVEN CIP REGIONS 1972 / 74

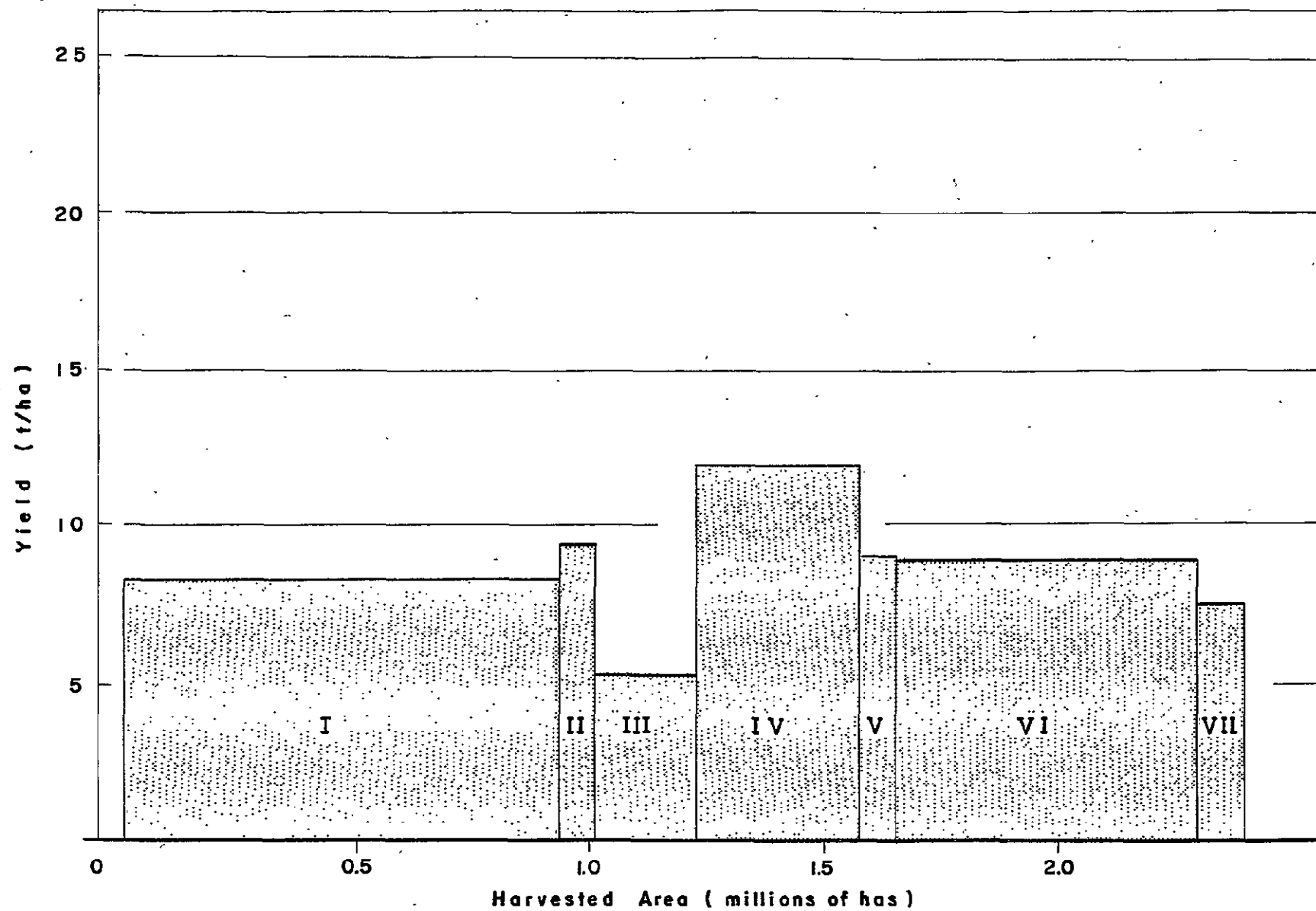


Figure II.2 : POTATO PRODUCTION - REGION I 1972 / 74

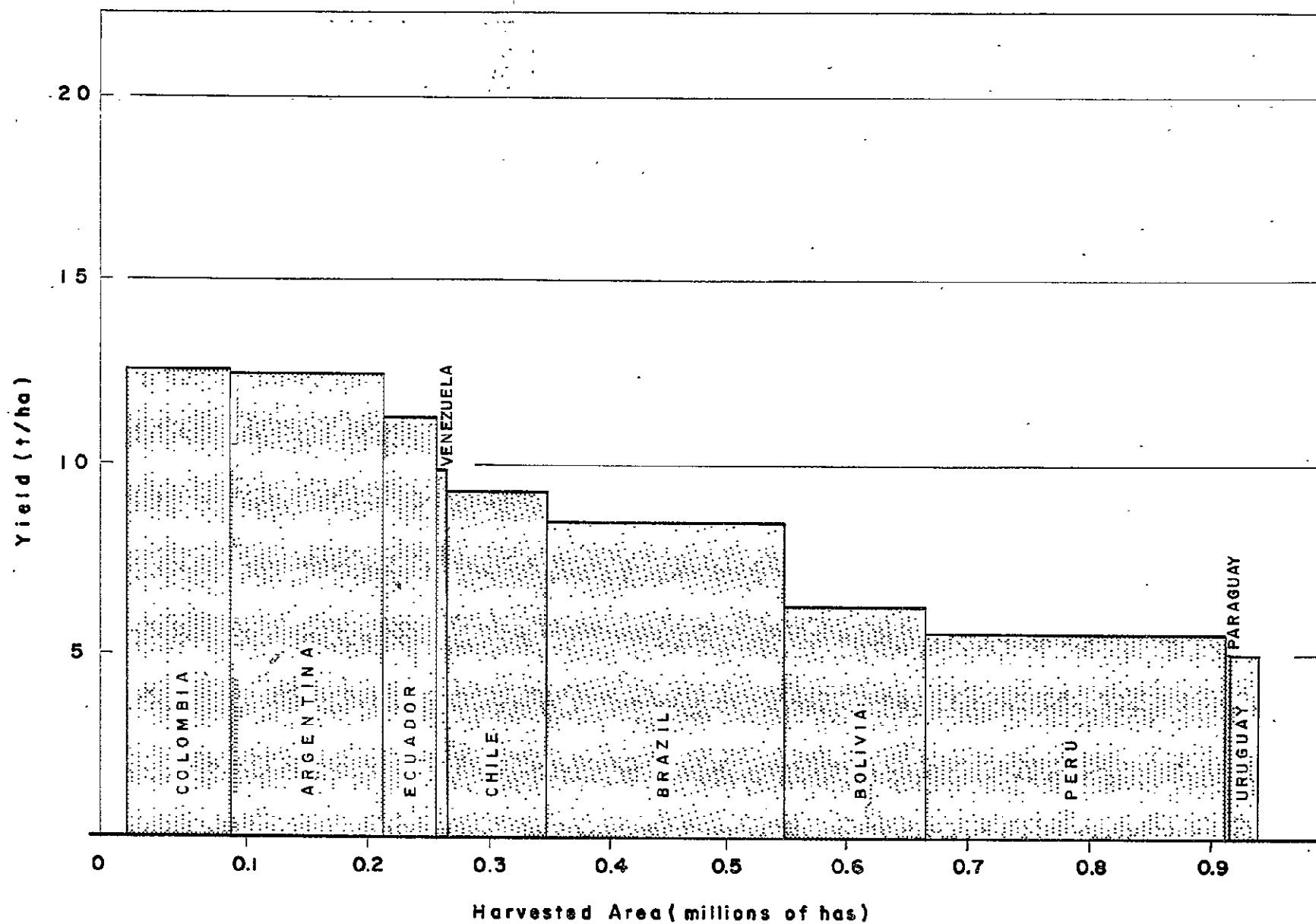




Figure 11.3: POTATO PRODUCTION - REGIONS II, III AND IV 1972 / 74

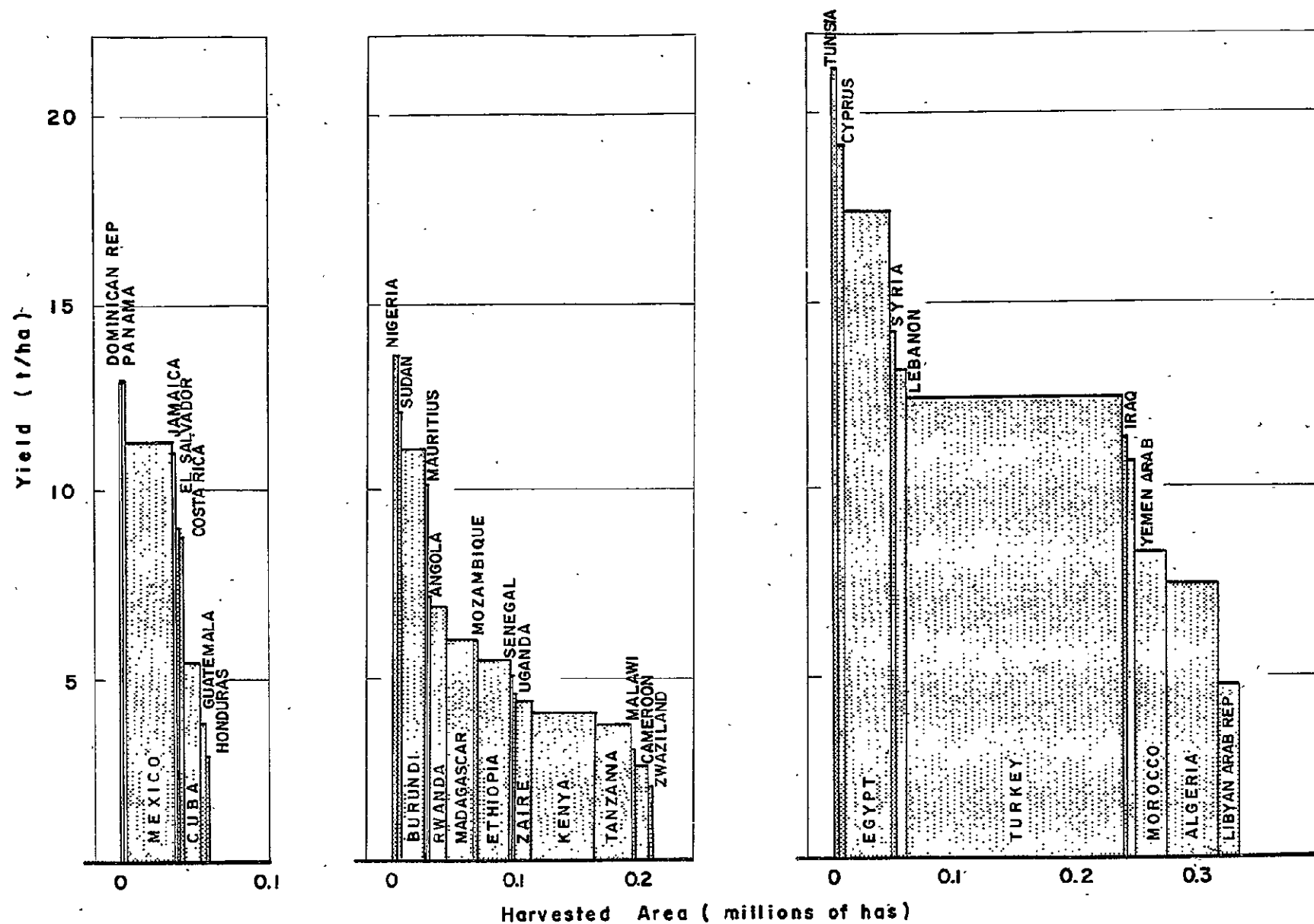


Figure II. 4

# POTATO PRODUCTION - REGIONS V, VI AND VII 1972 / 74

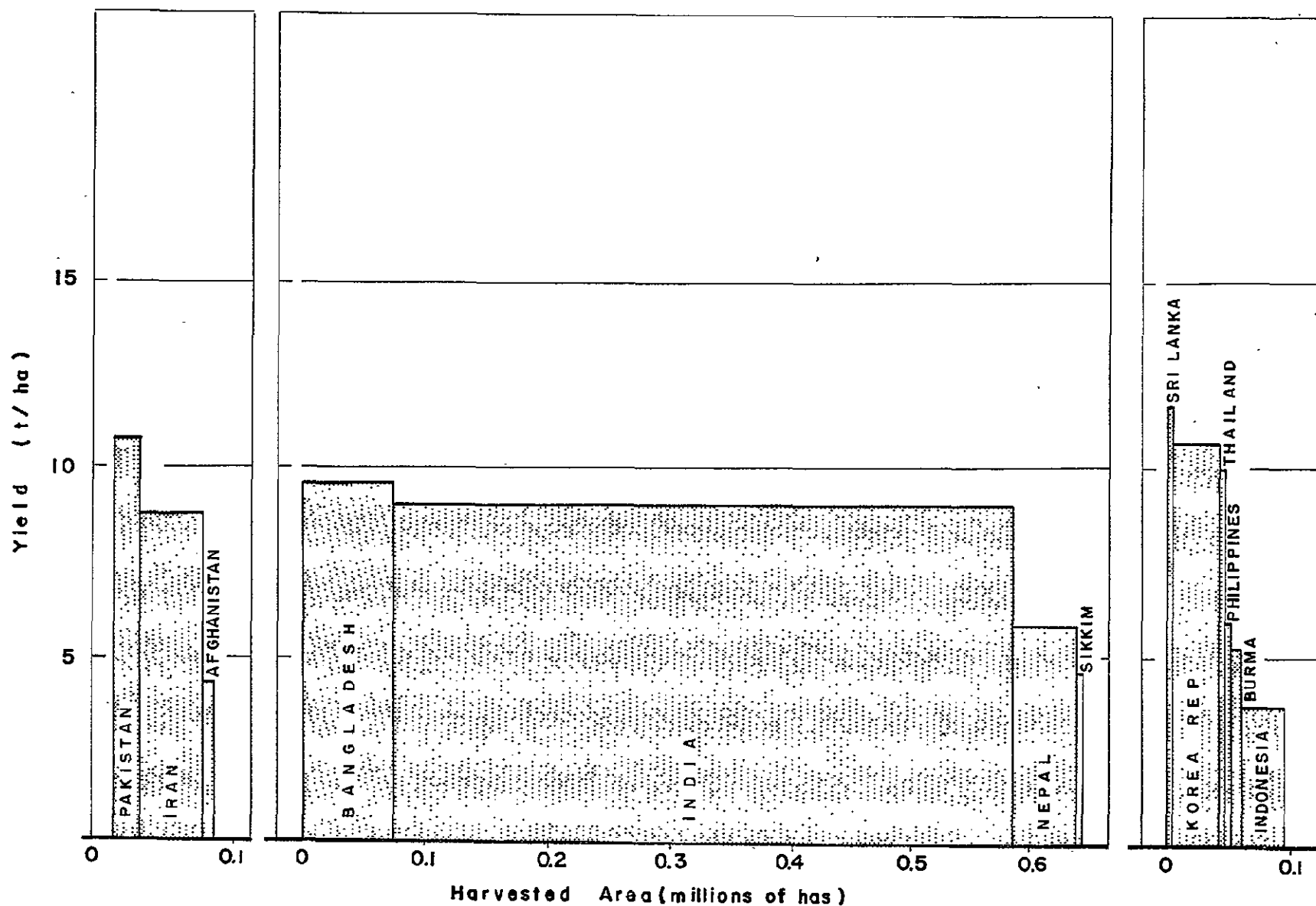


Figure 11.5 : POTATO PRODUCTION IN DEVELOPING COUNTRIES WITH OVER 10,000 HECTARES IN POTATOES 1972 / 74

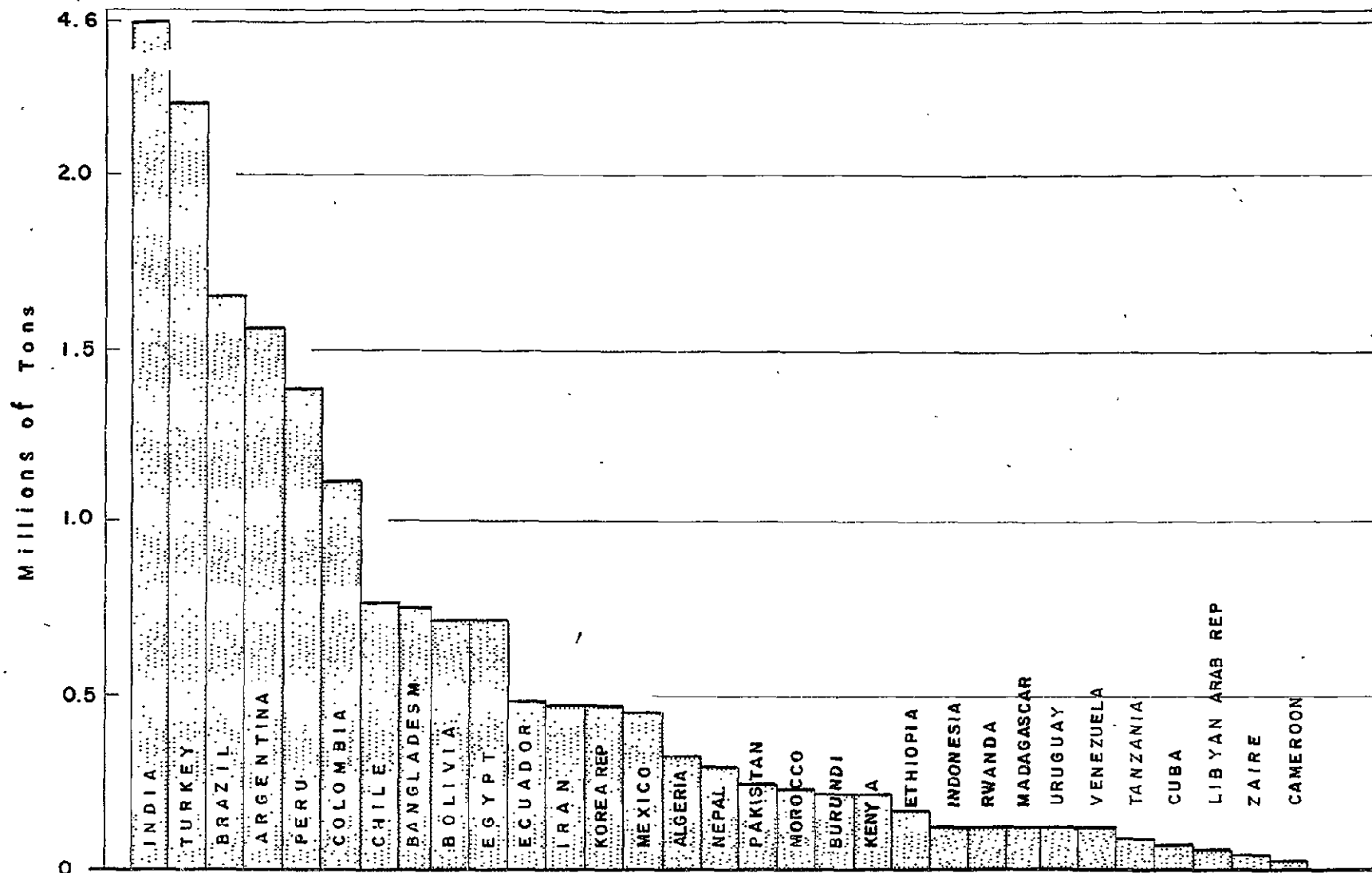


Figure II.6 PER CAPITA POTATO PRODUCTION IN DEVELOPING COUNTRIES WITH OVER 10,000 HECTARES IN POTATOES 1972 / 74

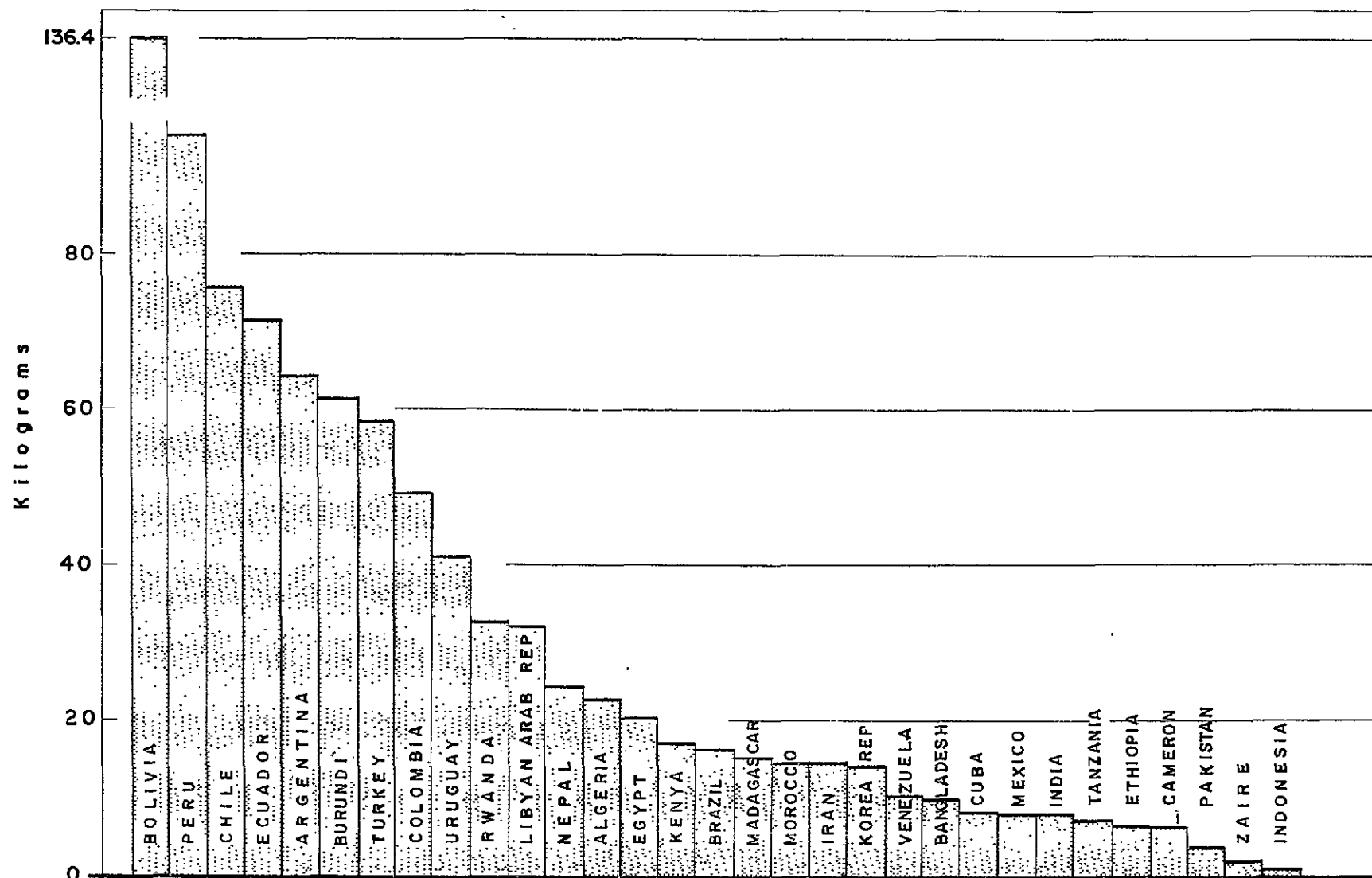


Figure 11.7 : AREA SEEDED TO POTATOES IN DEVELOPING COUNTRIES WITH OVER 10,000 HECTARES IN POTATOES 1972 / 74

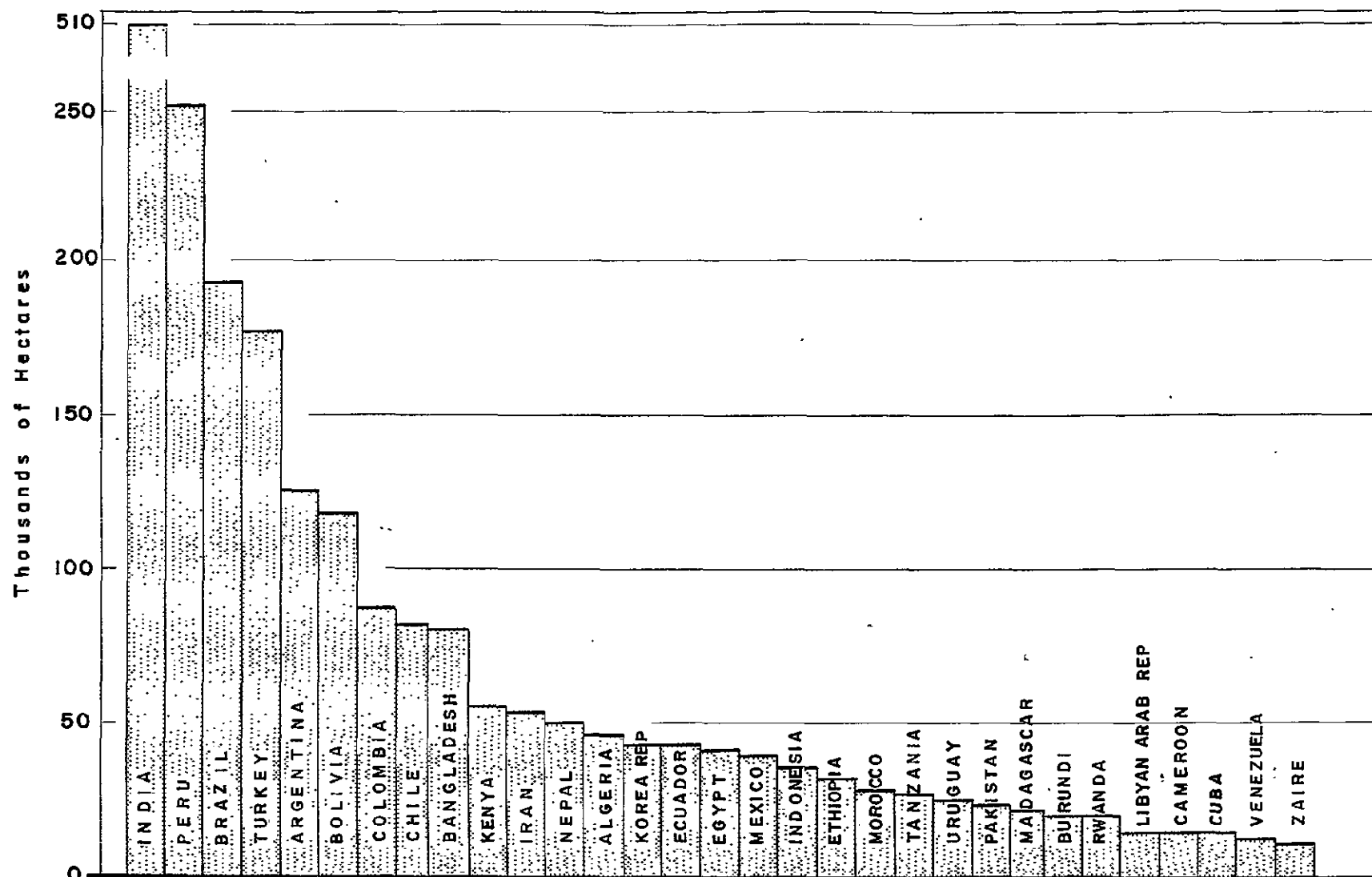


Figure II. 8 : AREA SEEDED TO POTATOES AS PER CENT OF TOTAL CROOPLAND IN DEVELOPING CONTRIES WITH OVER 10,000 HECTARES IN POTATOES 1972 / 74

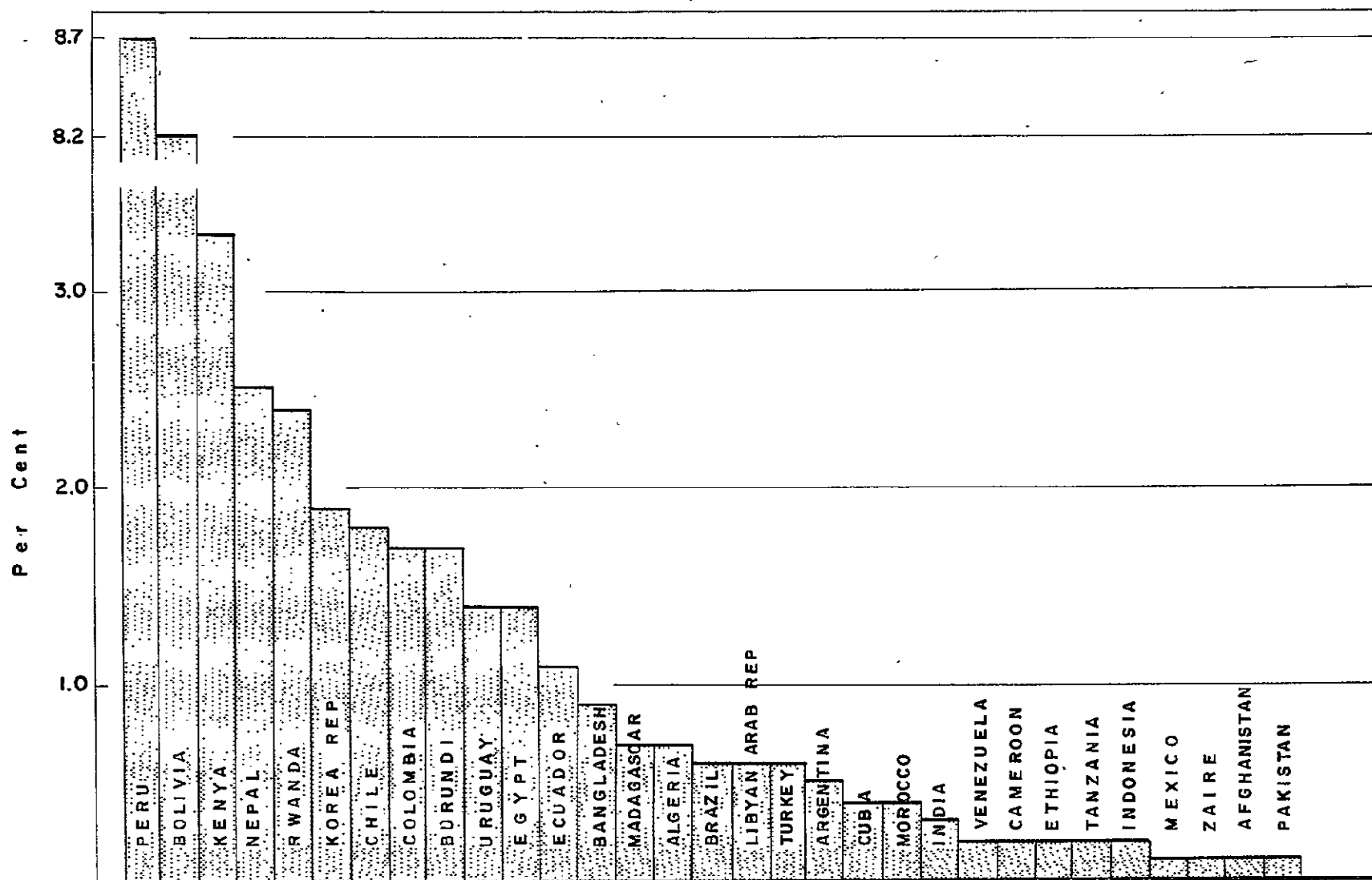


Figure 11.9 : POTATO YIELDS IN DEVELOPING COUNTRIES WITH OVER 10,000 HECTARES IN POTATOES 1972 / 74

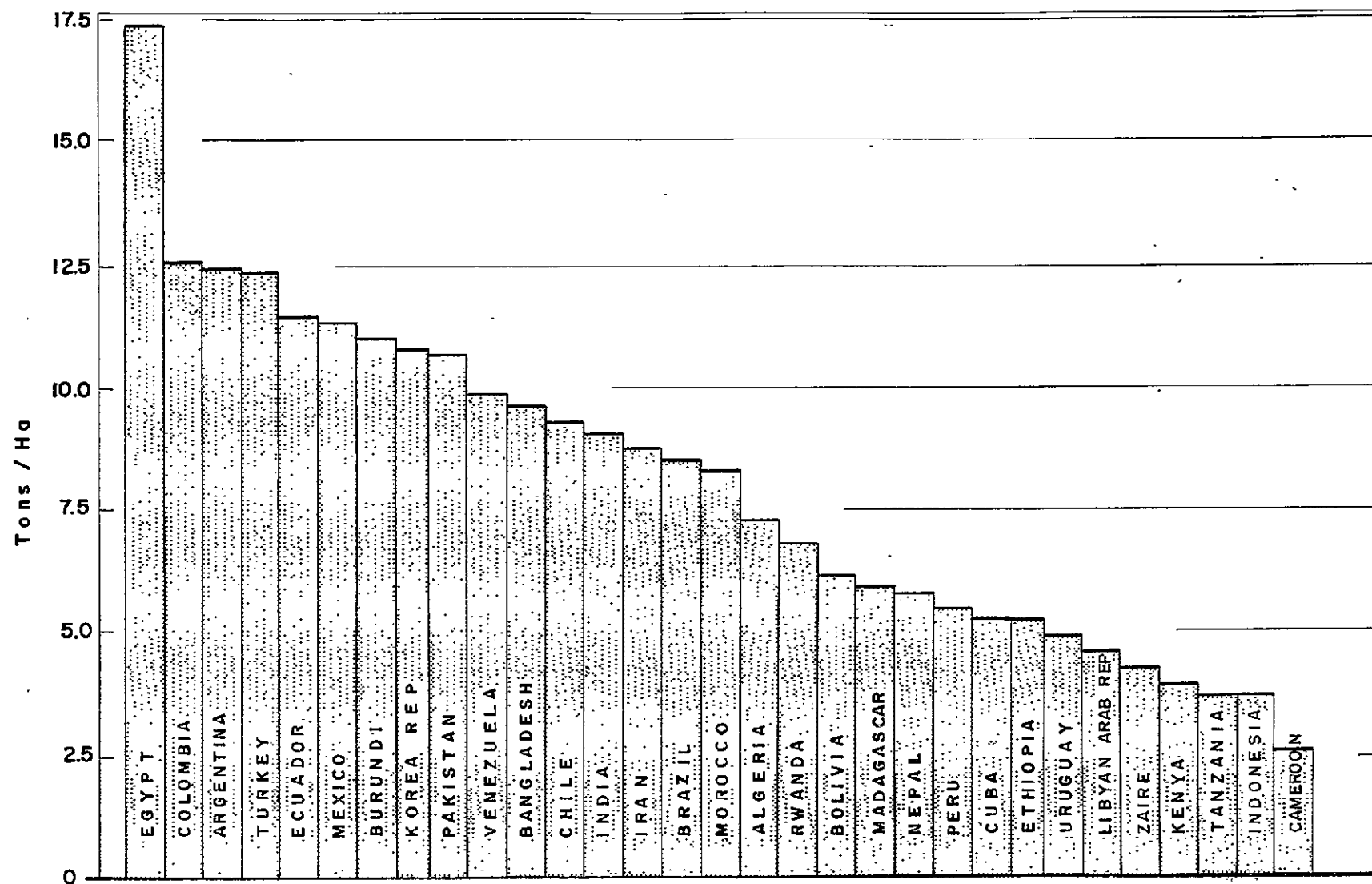


Figure II. 10 : PER CENT CHANGE IN POTATO PRODUCTION IN DEVELOPING CONTRIES  
WITH OVER 10,000 HECTARES IN POTATOES 1961/65 - 1972 / 74

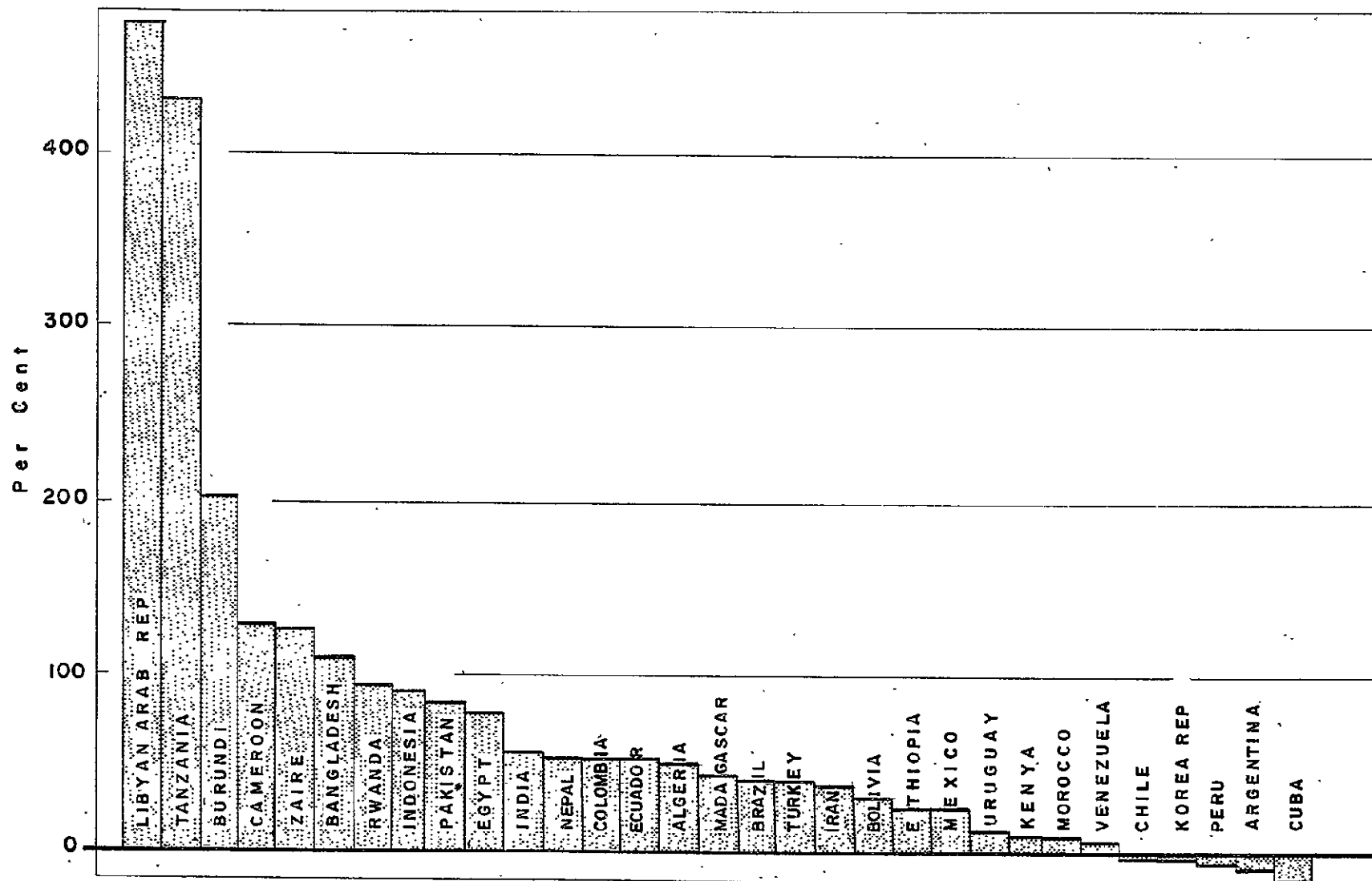




Figure 11.11: PER CENT CHANGE IN AREA SEEDED TO POTATOES IN DEVELOPING COUNTRIES  
WITH OVER 10,000 HECTARES IN POTATOES 1961/65 - 1972/74

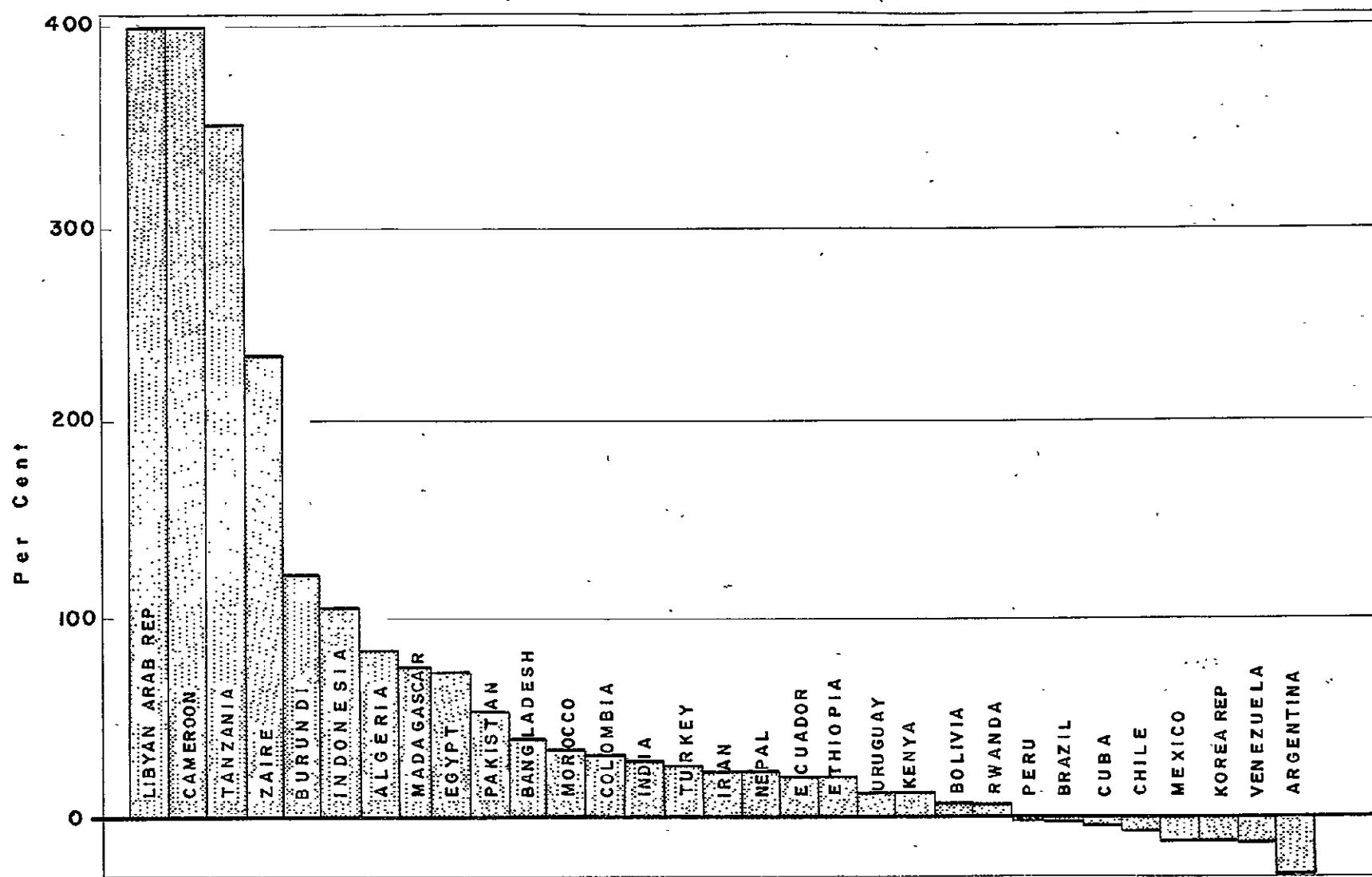


Figure II.12: PER CENT CHANGE IN POTATO YIELDS IN DEVELOPING CONTRIES WITH OVER 10,000 HECTARES IN POTATOES 1961/65 - 1972/74

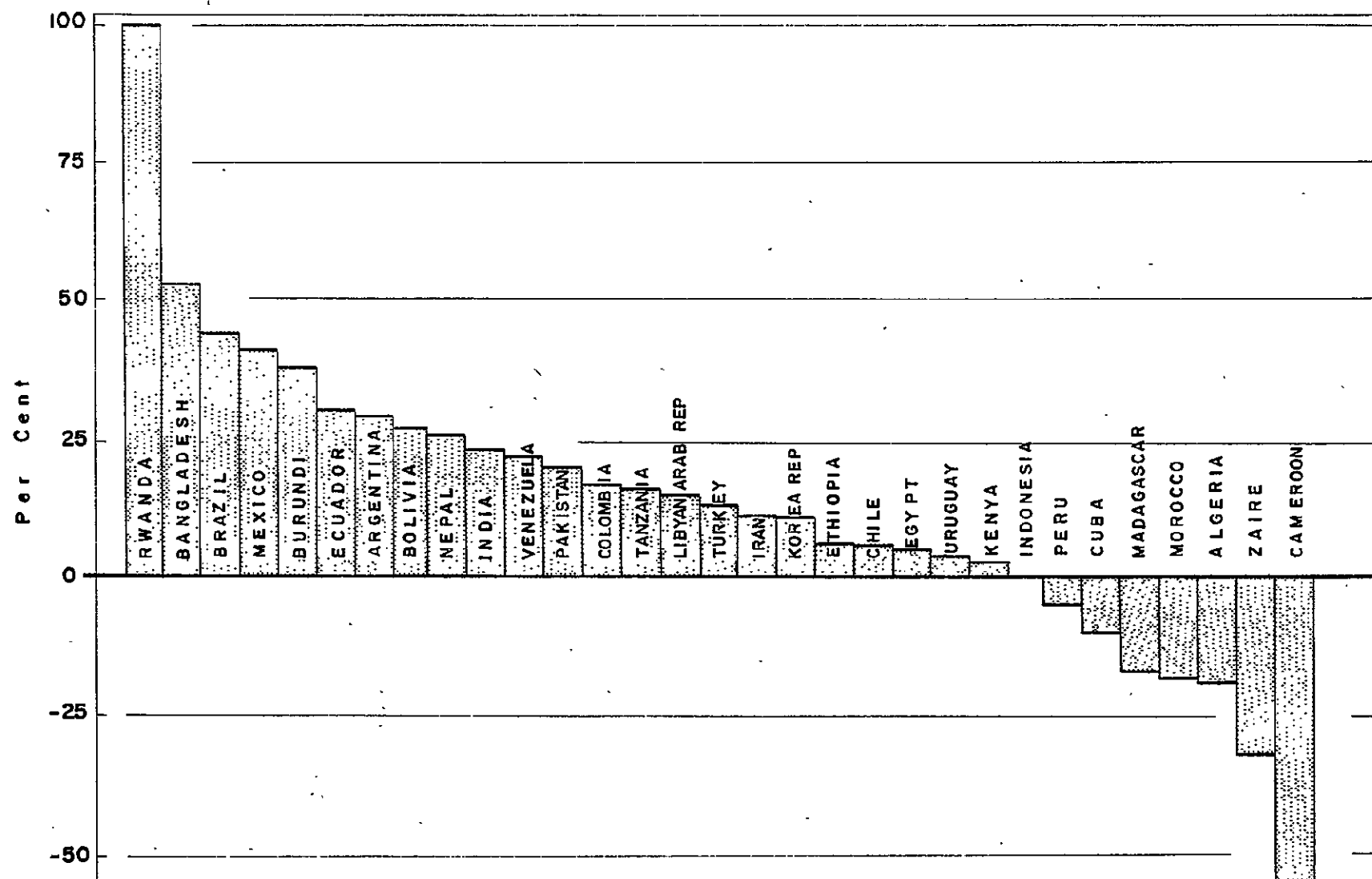


Figure II.13: CIP REGIONS I AND II – THREE YEAR MOVING AVERAGES OF POTATO PRODUCTION 1934/38 – 1974/76

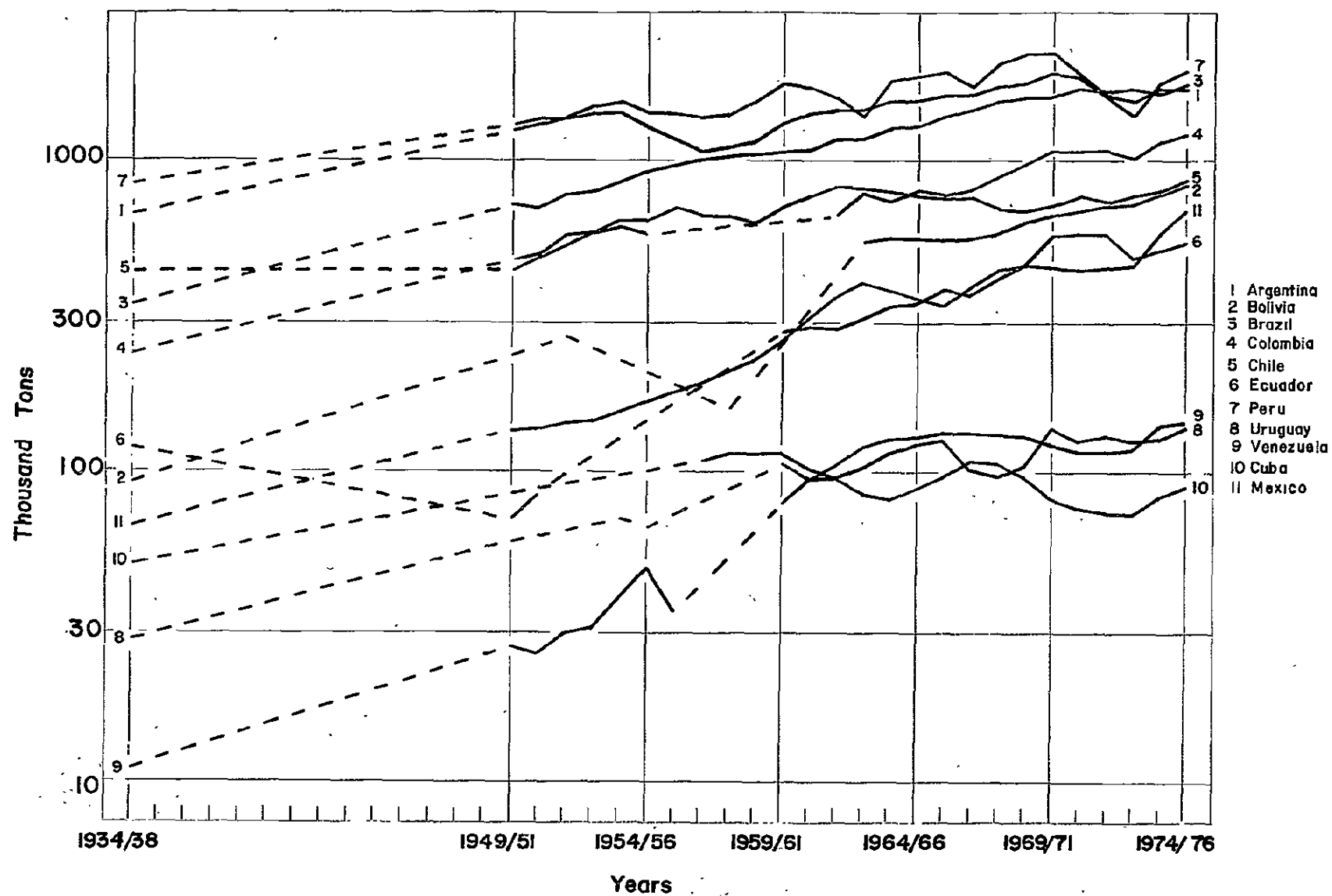


Figure 11.14: CIP REGIONS I AND II – THREE YEAR MOVING AVERAGES OF AREA IN POTATOES 1934/38 – 1974/76

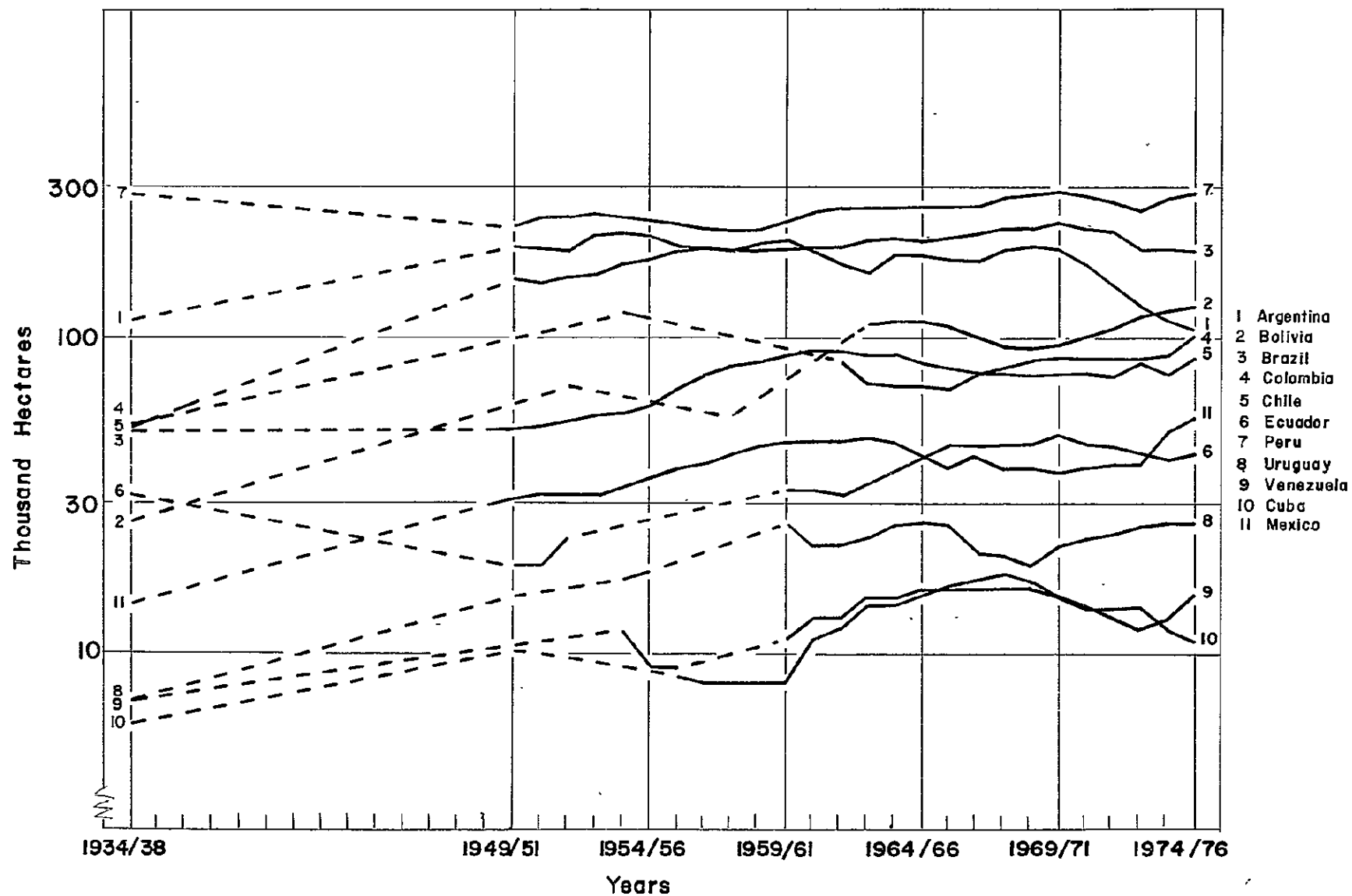


Figure II. 15: CIP REGIONS I AND II — THREE YEAR MOVING AVERAGES OF POTATO  
YIELDS 1934/38 — 1974/76

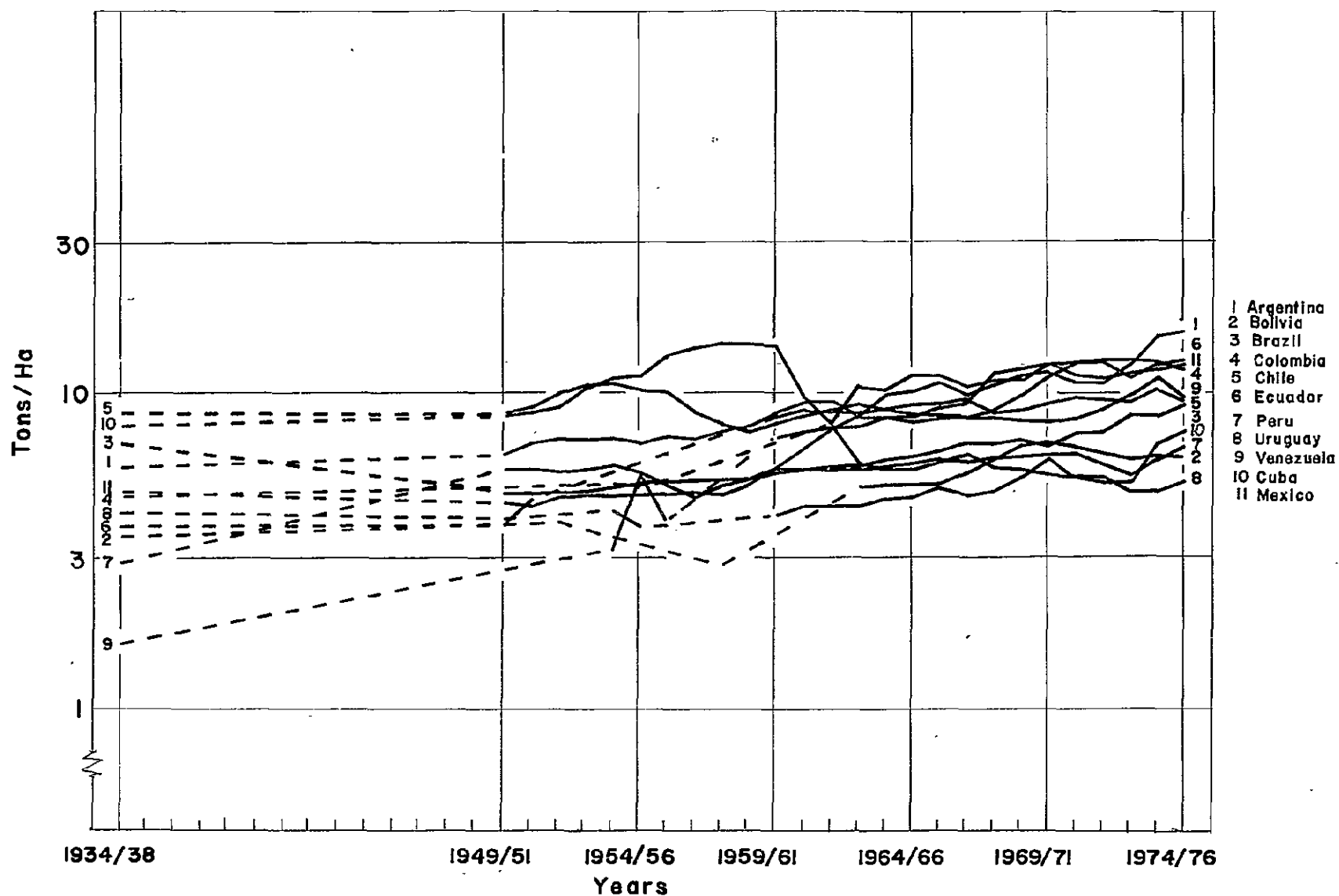


Figure II.16: CIP REGIONS I AND II — THREE YEAR MOVING AVERAGES OF POTATO PRODUCTION 1962/64 — 1974/76

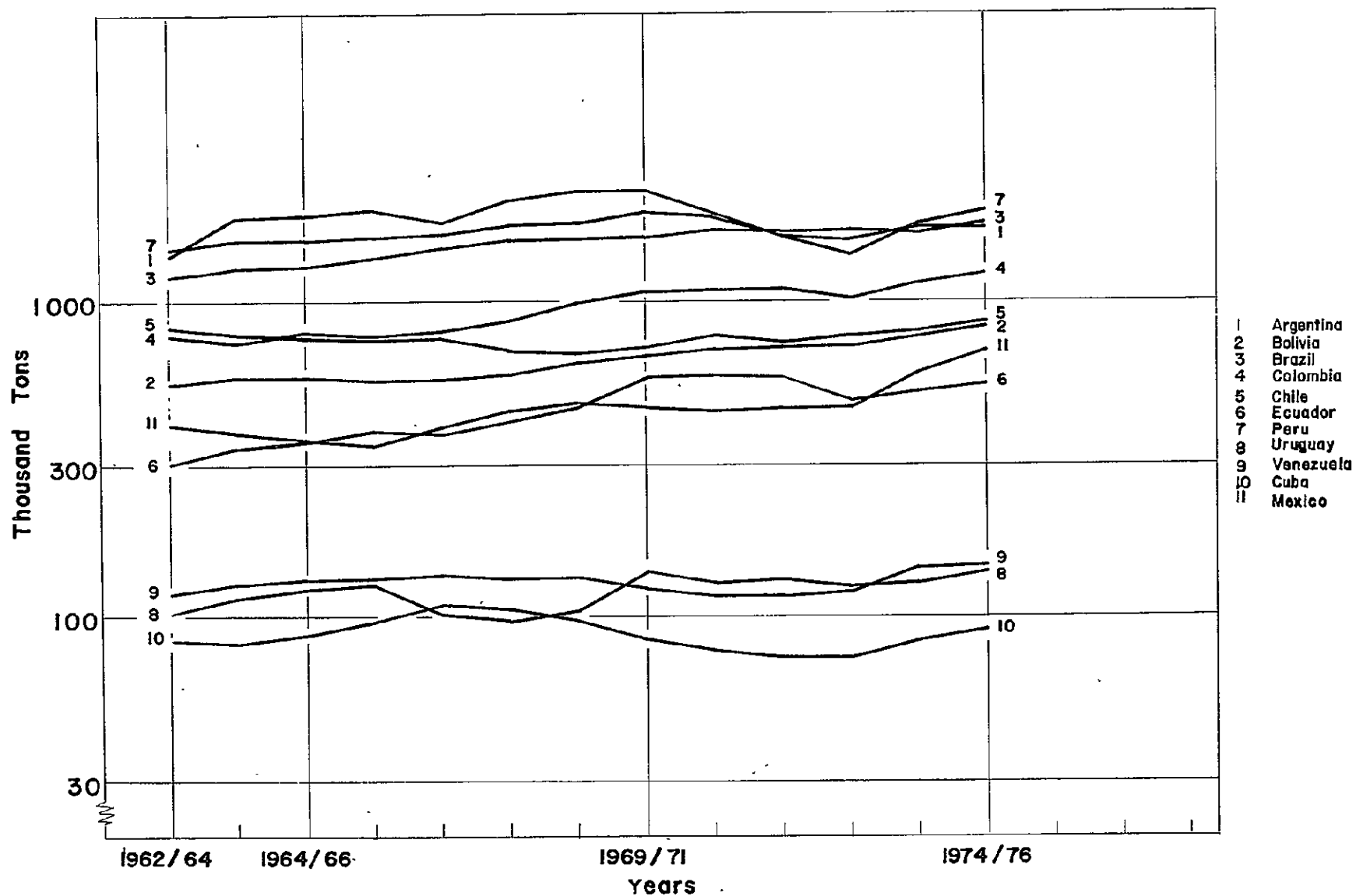


Figure II. 17: CIP REGIONS I AND II — THREE YEAR MOVING AVERAGES OF AREA IN  
POTATOES 1962/64 — 1974/76

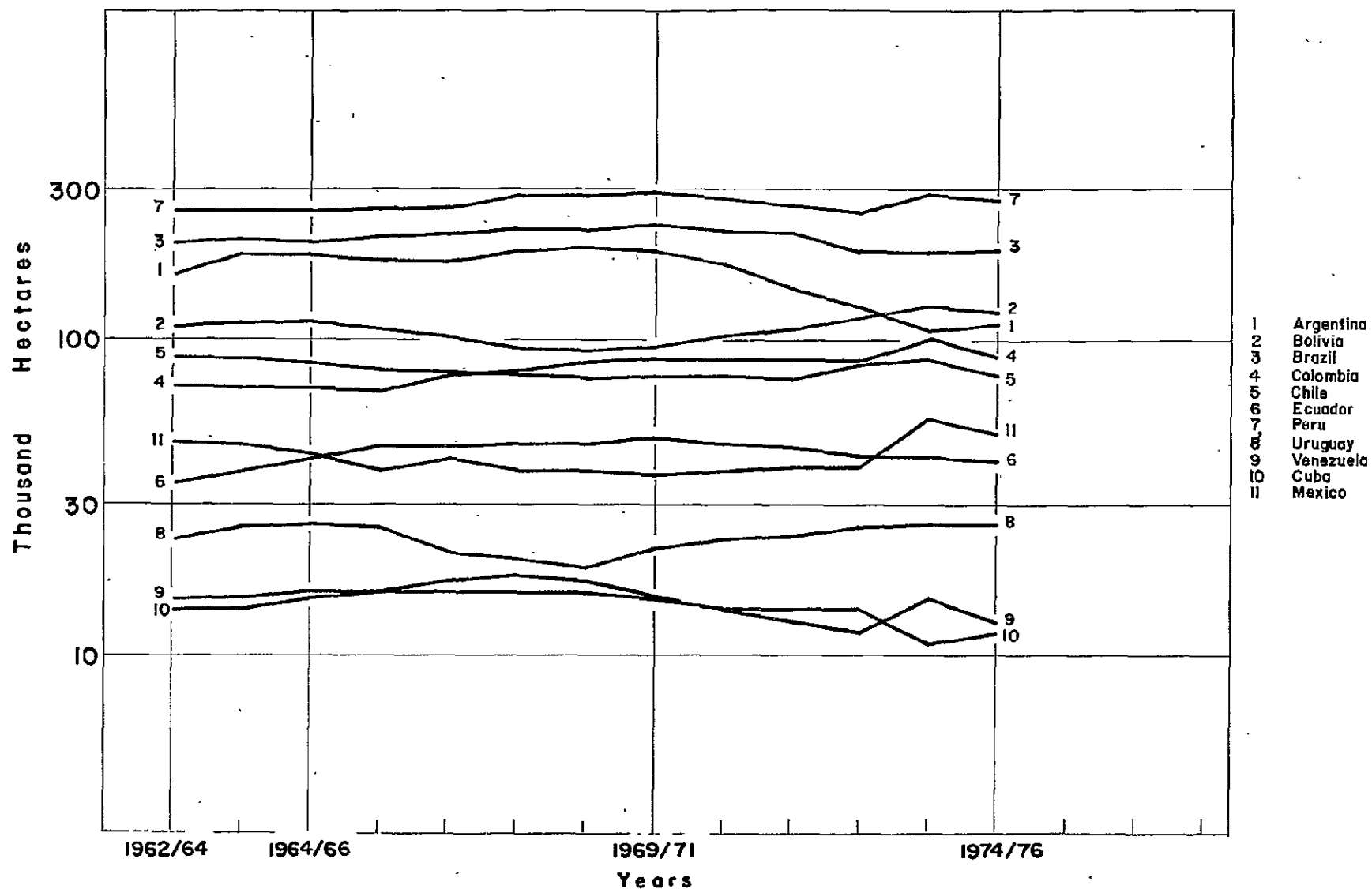


Figure 11.18 : CIP REGIONS I AND II — THREE YEAR MOVING AVERAGES OF  
POTATO YIELDS 1962/64 — 1974/76

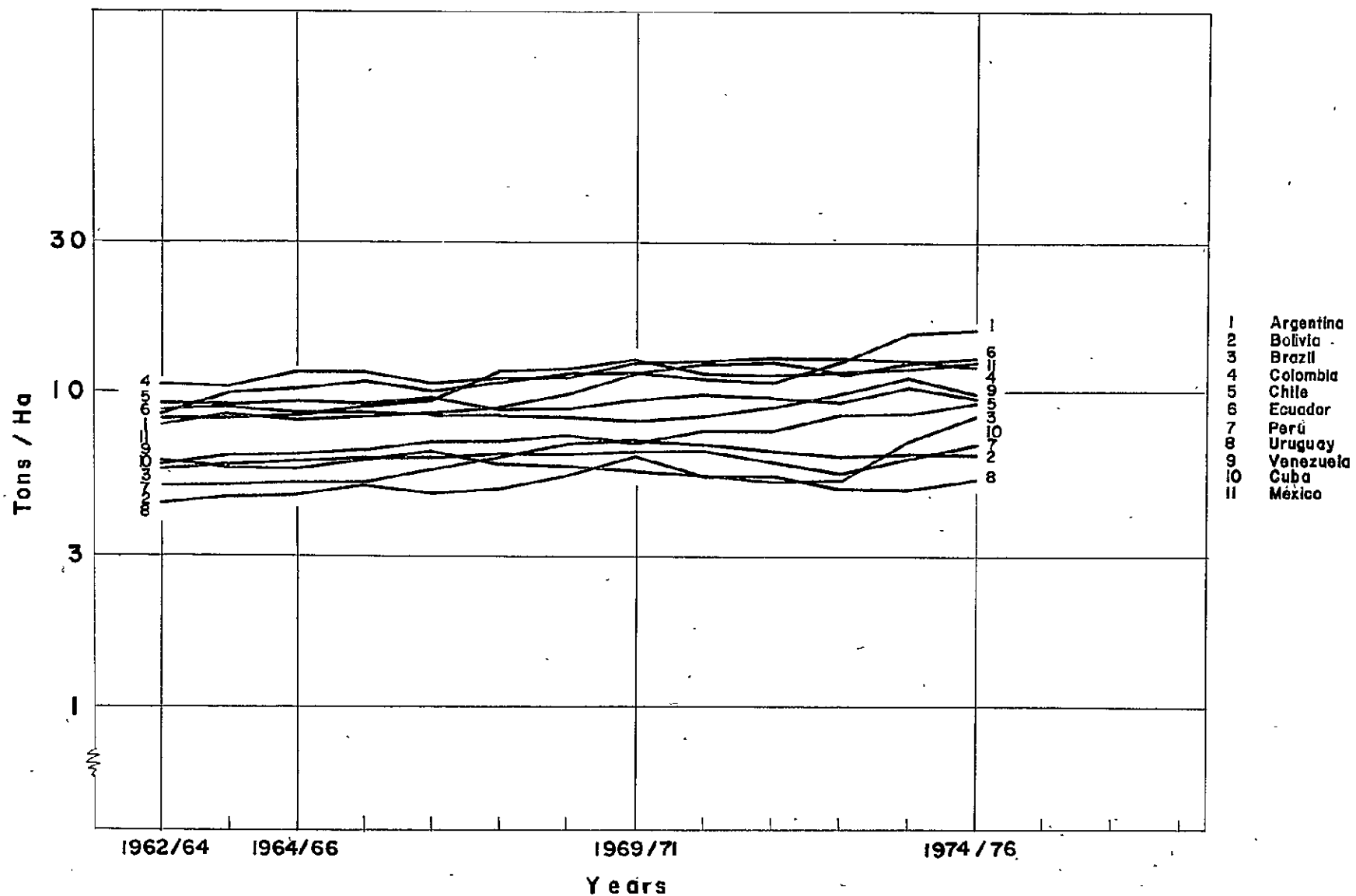




Figure 11.19 : CIP REGIONS III — THREE YEAR MOVING AVERAGES OF POTATO  
PRODUCTION 1962/64 — 1974/76

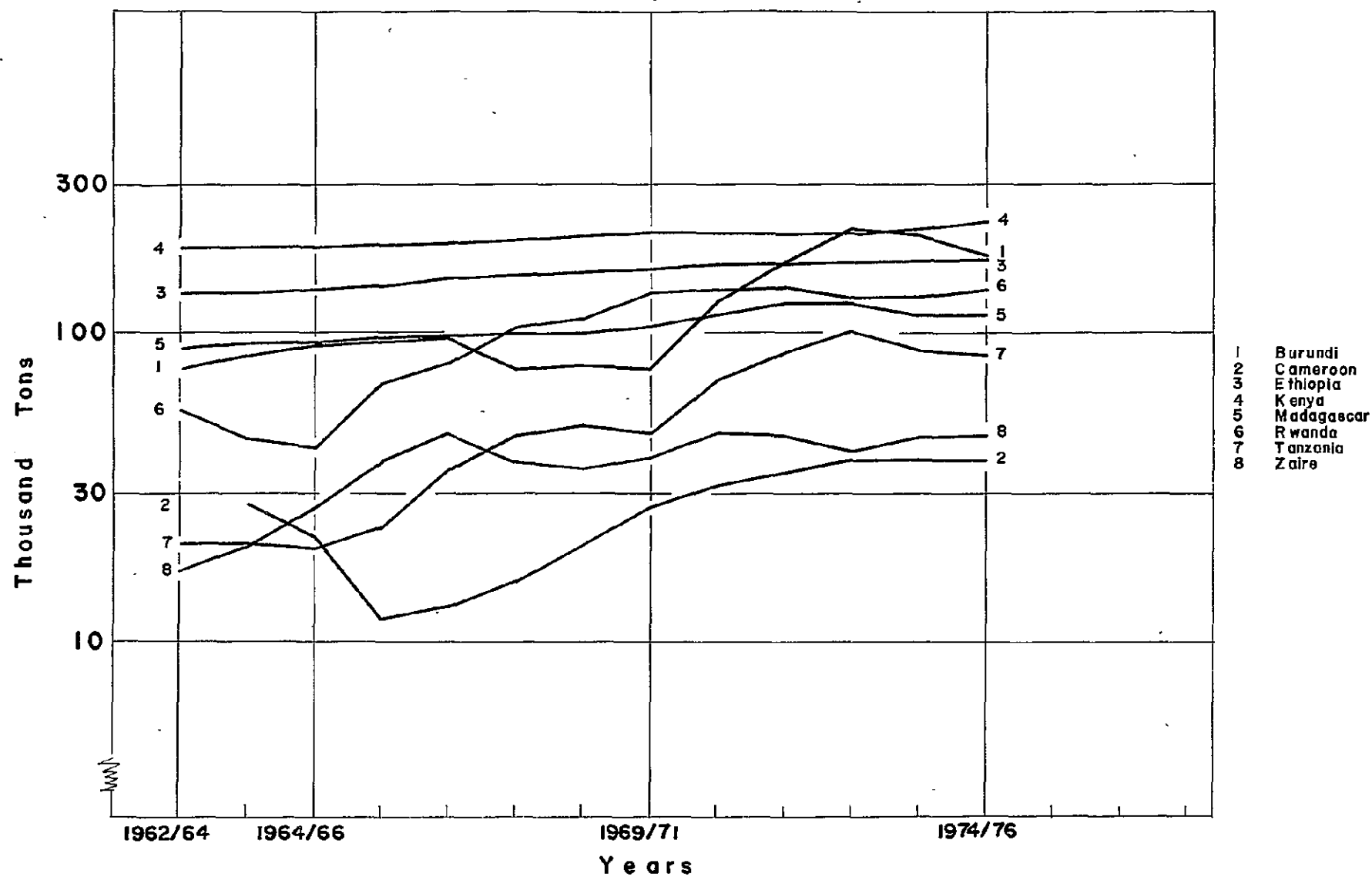


Figure II.20: CIP REGION III — THREE YEAR MOVING AVERAGES OF AREA IN  
POTATOES 1962/64 — 1974/76

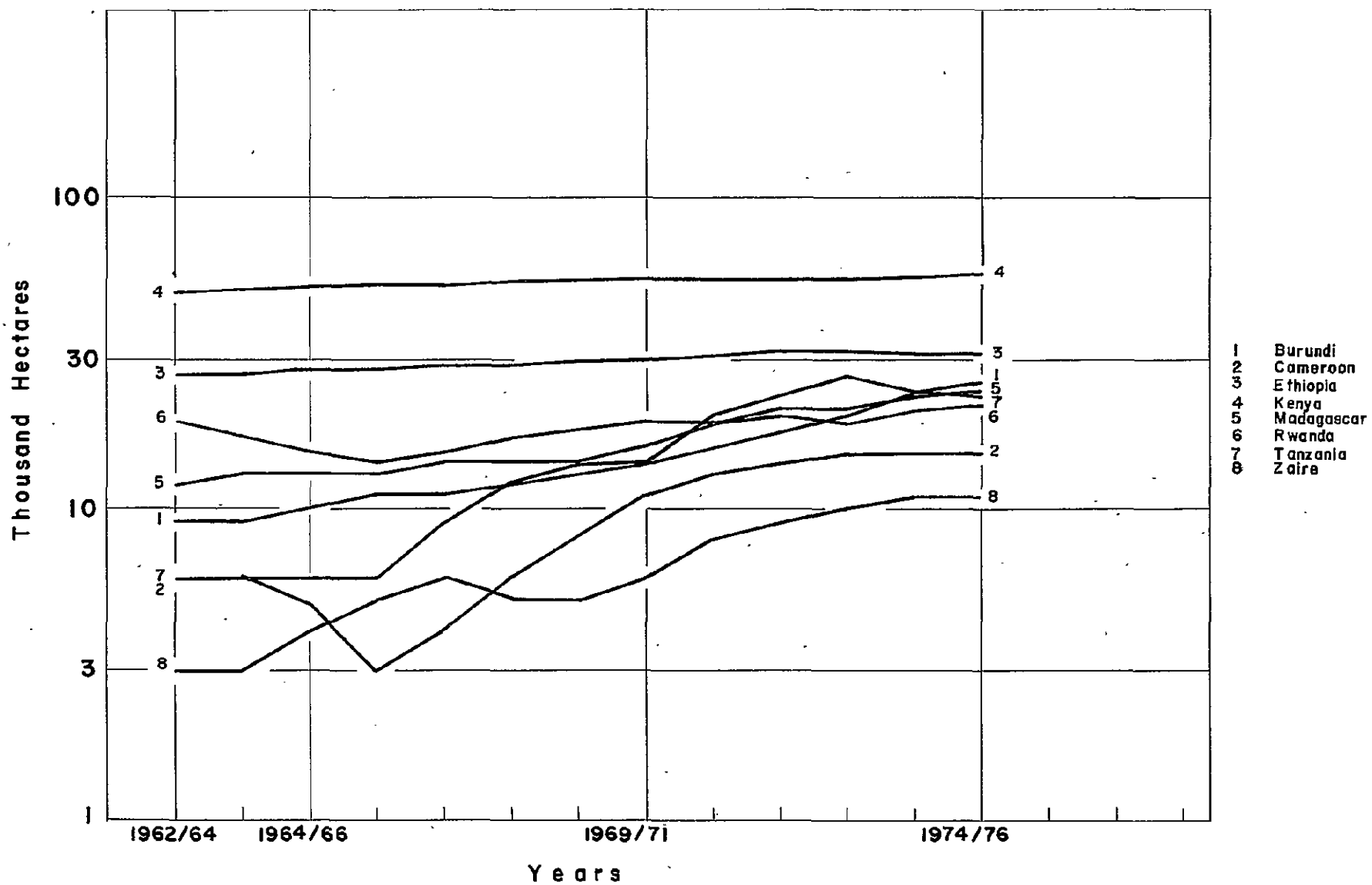


Figure 11.21: CIP REGION III - THREE YEAR MOVING AVERAGES OF POTATO YIELDS

1962/64 - 1974/76

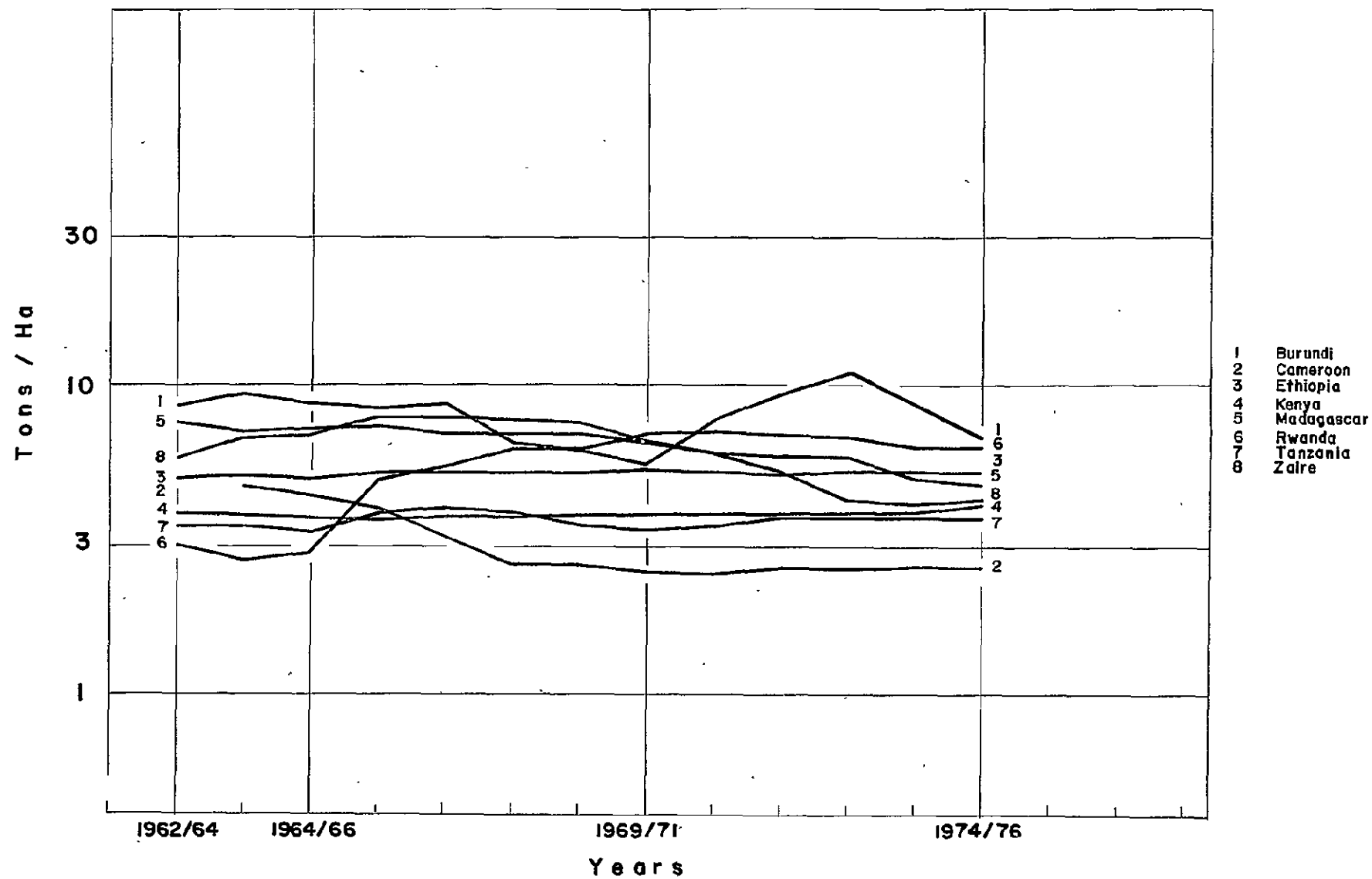


Figure II.22: CIP REGION IV — THREE YEAR MOVING AVERAGES OF POTATO PRODUCTION 1962/64 — 1974/76

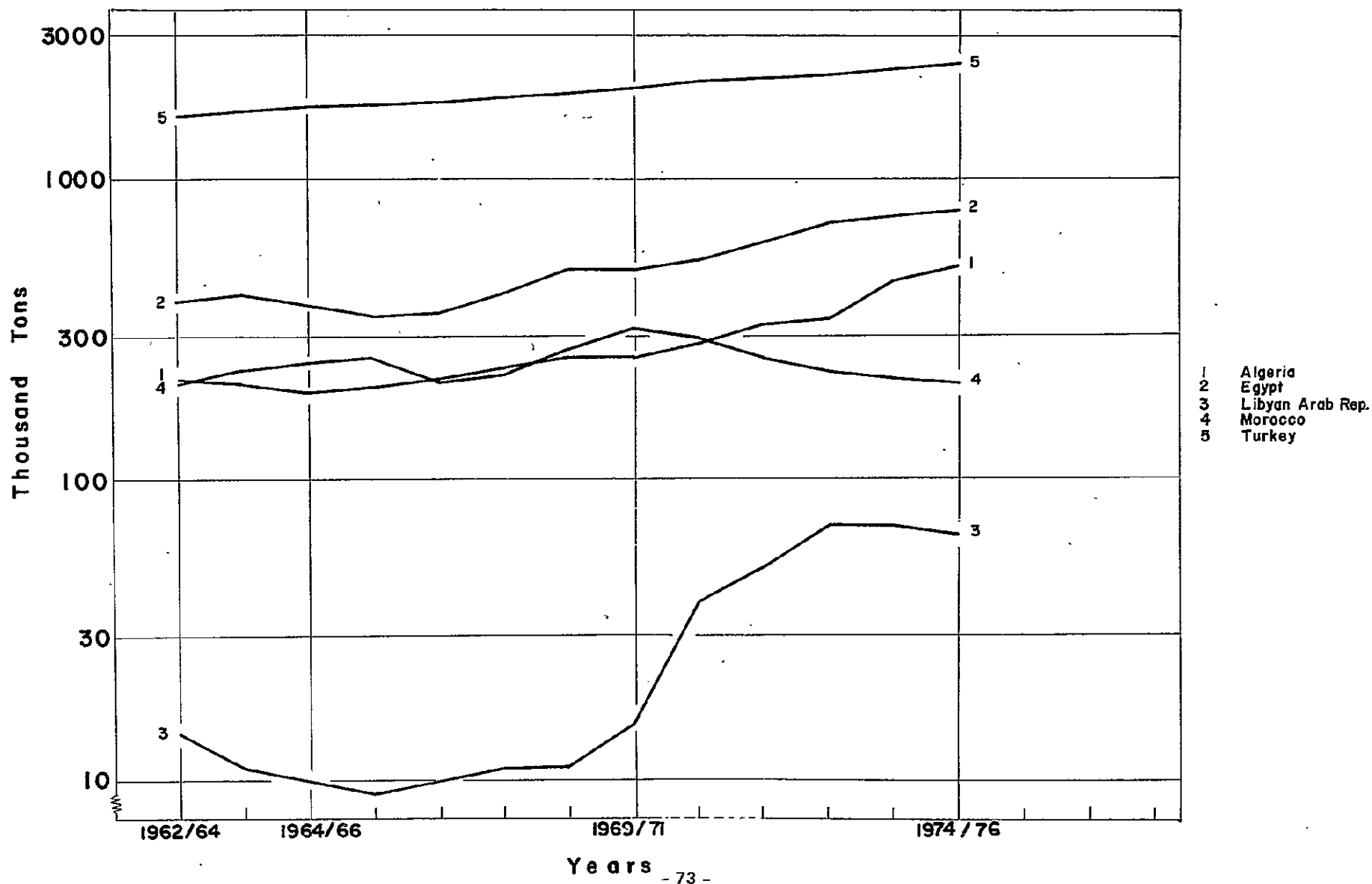


Figure 11.23: CIP REGION IV — THREE YEAR MOVING AVERAGES OF AREA IN  
POTATOES 1962/64 — 1974/76

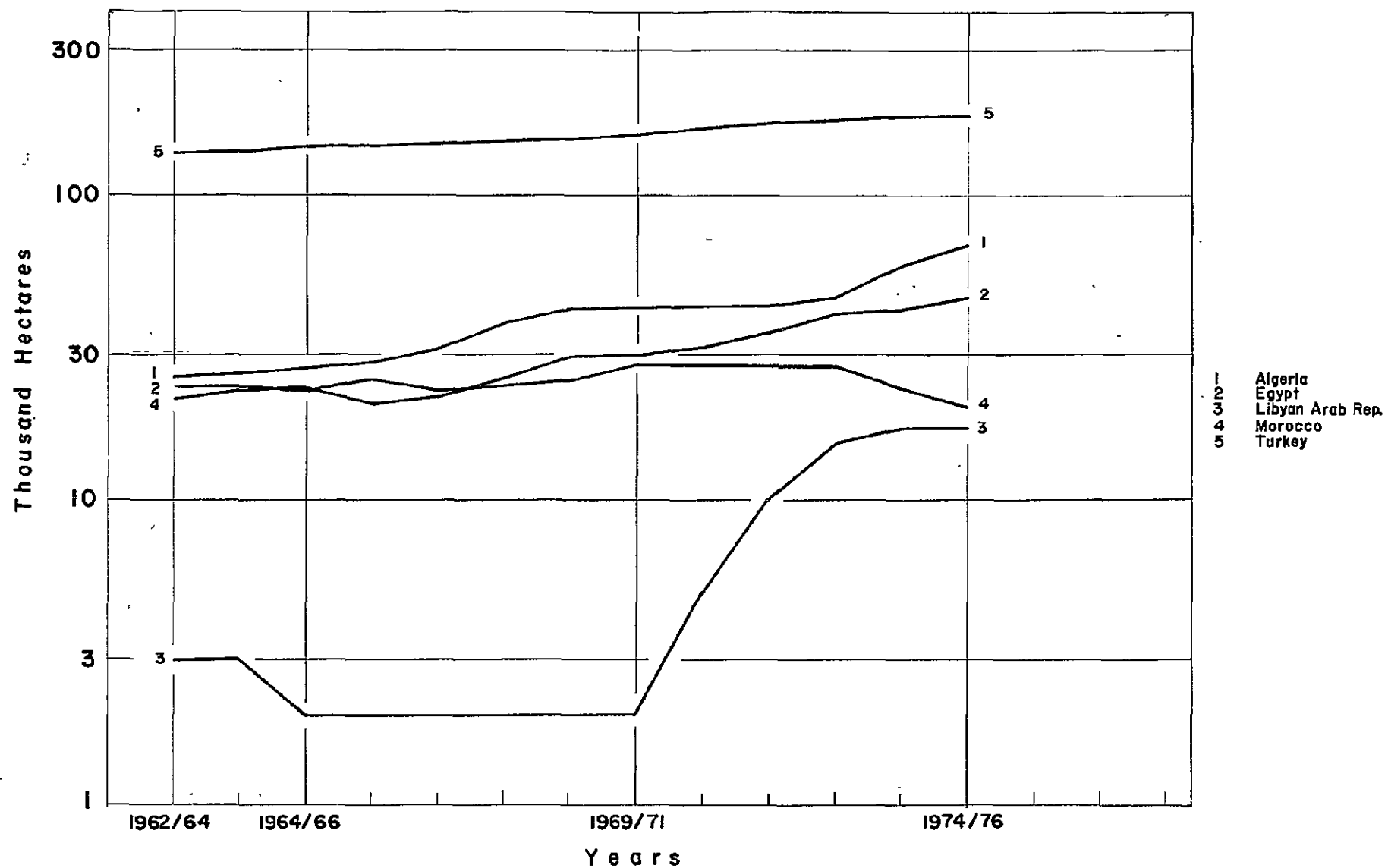


Figure II. 24: CIP REGION IV — THREE YEAR MOVING AVERAGES OF POTATO YIELD

1962/64 — 1974/76

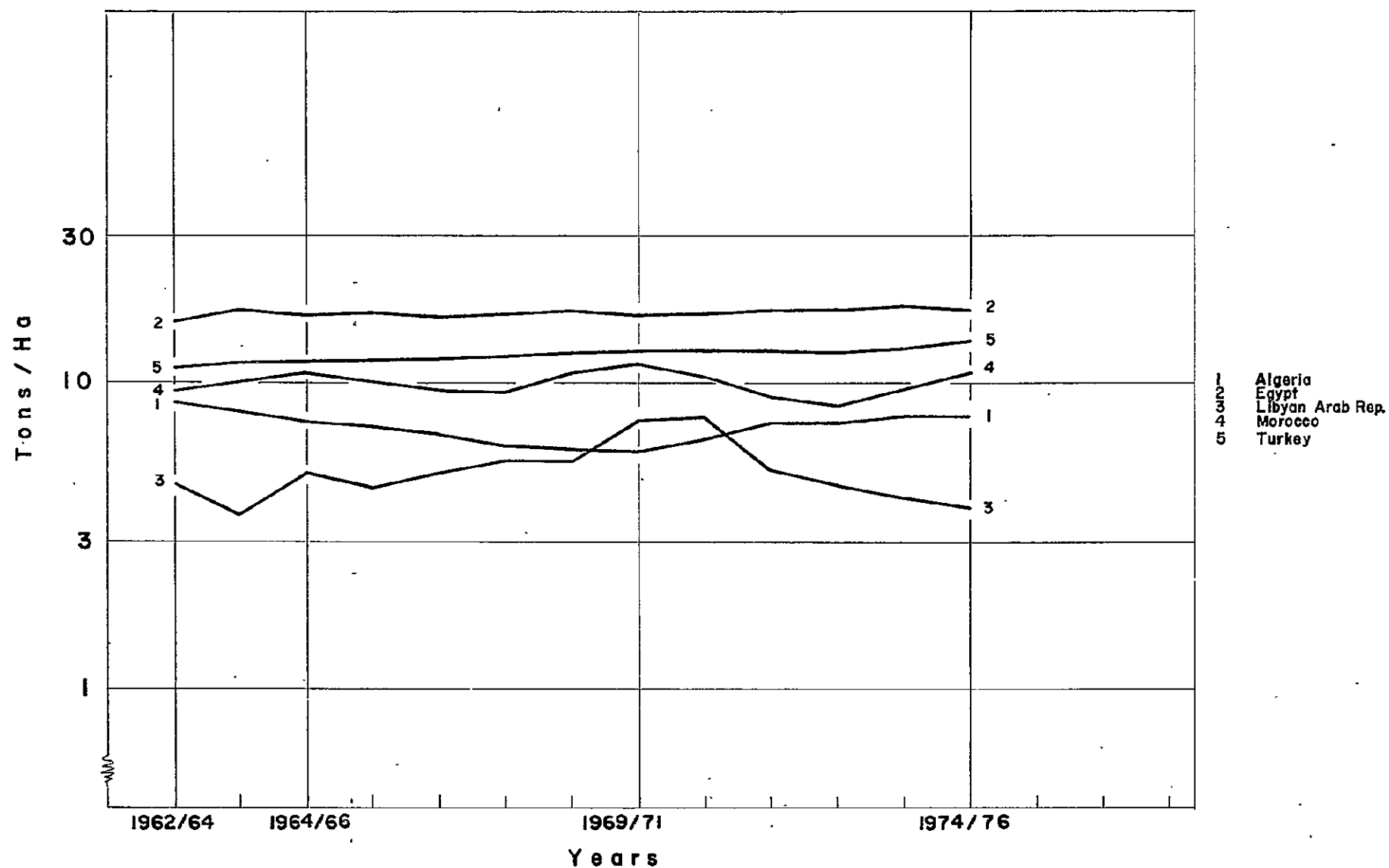


Figure II.25: CIP REGIONS V, VI AND VII — THREE YEAR MOVING AVERAGES OF  
POTATO PRODUCTION 1962/64 — 1974/76

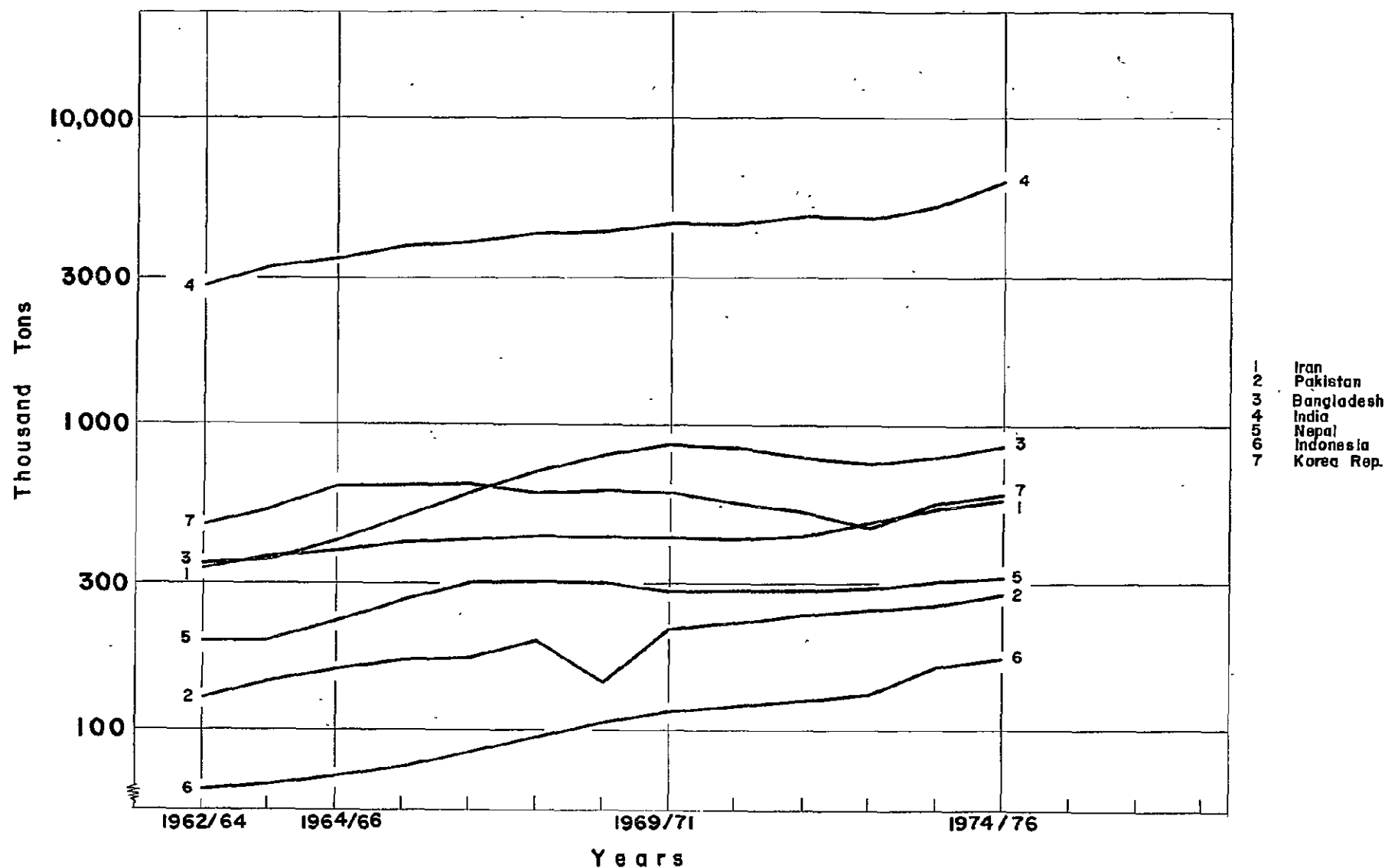


Figure II. 26: CIP REGIONS V, VI AND VII — THREE YEAR MOVING AVERAGES OF  
AREA IN POTATOES 1962/64 — 1974/76

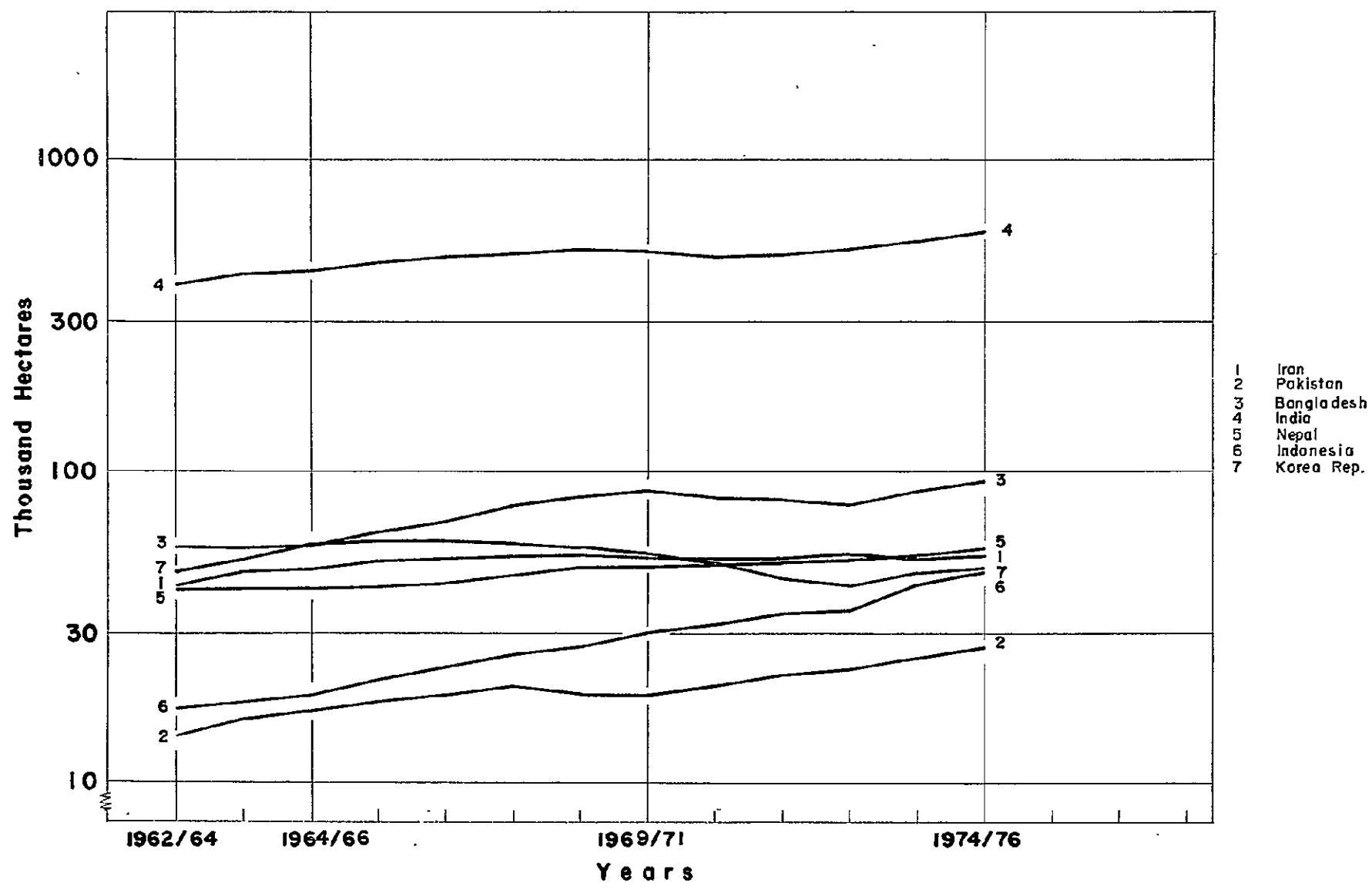




Figure 11.27: CIP REGIONS V, VI AND VII — THREE YEAR MOVING AVERAGES OF  
POTATO YIELDS 1962/64 — 1974/76

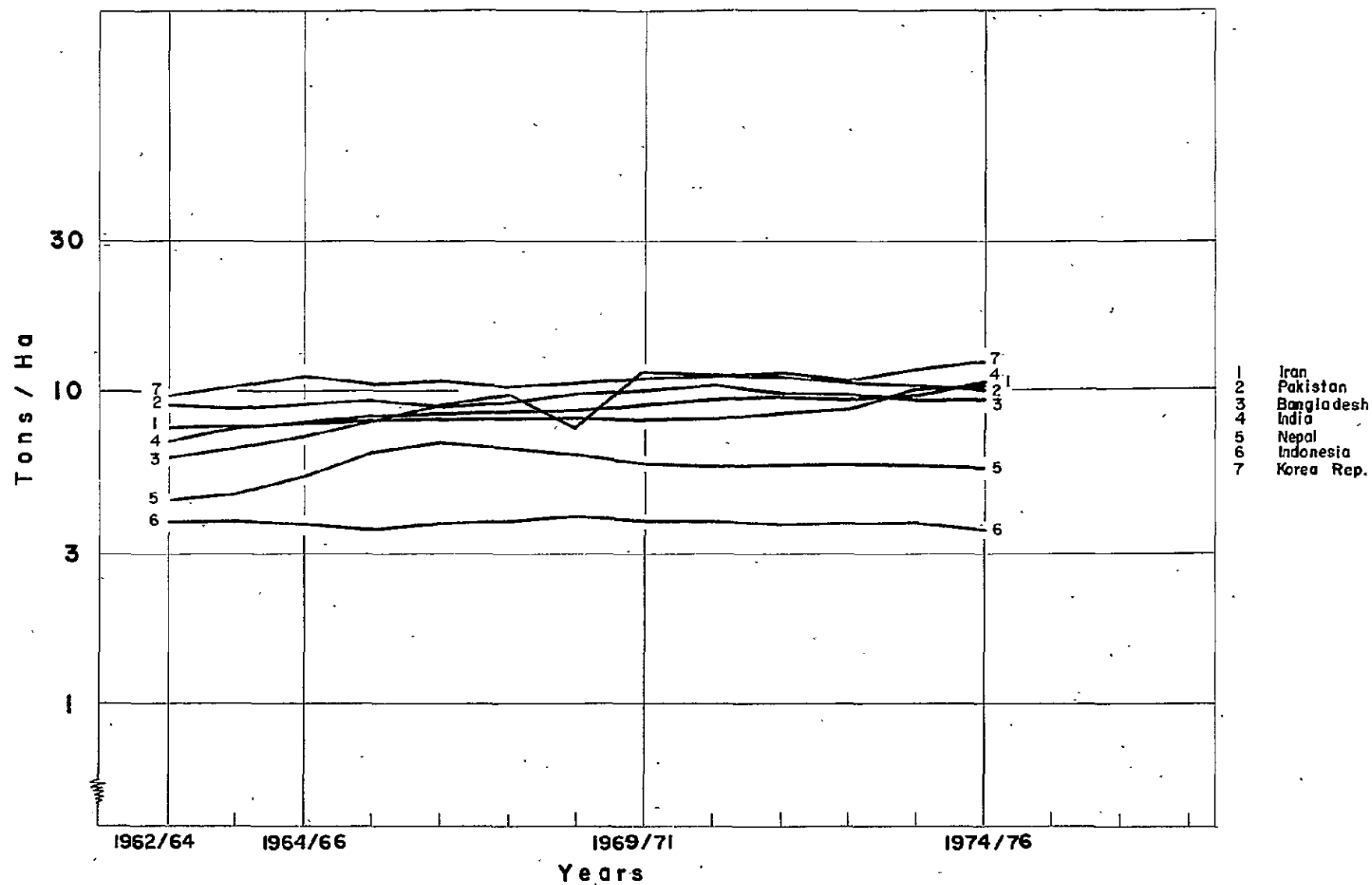


Table II.1: CIP REGIONS - GROSS NATIONAL PRODUCT PER CAPITA AND POPULATION

CIP REGION	GNP Per Capita		millions 1973	Population	
	US dollars 1973	annual ave. change, % 1960-73		annual ave. change, % 1960-73	per cent rural 1970
Region I	839	2.0	201.4	2.7	39.1
Region II	737	3.6	93.4	3.1	49.0
Region III	188	2.8	231.2	2.5	76.4
Region IV	581	1.5	142.4	2.7	57.9
Region V	325	5.6	115.0	2.9	65.3
Region VI	115	0.3	669.3	2.3	68.3
Region VII	196	3.8	283.4	2.4	68.0

Sources: World Bank Atlas: Population, Per Capita Product and Growth Rates (Washington, D.C., 1975).  
FAO Production Yearbook, 1974 (Rome, 1975).

Table II.2: CIP REGIONS - POTATO PRODUCTION 1972/74

CIP REGION	Area thousand ha	Yield t/ha	Production thousand ton	Per capita production kg/yr	Per cent cropland in potatoes
Region I	939	8.4	7,925	39.3	1.1
Region II	71	9.4	657	7.0	0.2
Region III	222	5.4	1,202	5.2	0.2
Region IV	344	11.9	4,106	28.8	0.5
Region V	81	9.0	733	6.4	0.2
Region VI	646	8.9	5,719	8.5	0.4
Region VII	98	7.4	729	2.6	0.1

Sources: FAO Production Yearbook, 1974 (Rome, 1975). World Bank Atlas: Production, Per Capita Product and Growth Rates (Washington, D.C., 1975). FAO Food Balance Sheets, 1964-66 (Rome, 1971).

Table II.3: CIP REGIONS - POTATO BALANCE SHEETS 1972/74

CIP REGIONS	Production	Export	Import	Domestic Availability	Feed	Seed	Waste	Fresh Food
	(.....thousand tons.....)				(.....per cent of Dom. Avail.....)			
Region I	7,925	5	212	8,132	2.5	16.0	10.4	71.1
Region II	657	13	82	726	0.3	8.5	9.9	81.3
Region III	1,202	10	32	1,224	0.1	16.4	9.7	73.8
Region IV	4,108	384	217	3,941	1.7	13.0	10.3	75.0
Region V	733	14	s.n.	719	0.0	9.7	10.3	80.0
Region VI	5,719	6	6	5,719	0.0	16.6	17.1	66.3
Region VII	<u>729</u>	<u>4</u>	<u>3</u>	<u>728</u>	<u>0.4</u>	<u>11.9</u>	<u>9.1</u>	<u>78.6</u>
Total (Weighted Ave.)	21,073	436	552	21,189	(1.3)	(15.0)	(12.1)	(71.6)

Sources: FAO Production Yearbook, 1974 (Rome, 1975). IBRD, Economic Analysis and Projections Department.  
FAO Food Balance Sheets, 1964-66 (Rome, 1971).

Table II.4: CIP REGION I AND II - GROSS NATIONAL PRODUCT PER CAPITA AND POPULATION

COUNTRY	GNP Per Capita		Population		
	US dollars 1973	annual ave. change, % 1960 - 73	thousand 1973	annual ave. change, % 1960 - 73	per cent rural 1970
REGION I					
Argentina	1,640	2.7	24,282	1.5	15.2
Bolivia	230	2.5	5,331	2.6	58.3
Brazil	760	3.6	101,051	2.9	43.7
Chile	720	1.7	10,230	2.2	25.4
Colombia	440	2.4	22,500	2.9	45.2
Ecuador	380	1.9	6,786	3.4	53.6
Paraguay	410	1.9	2,416	2.6	53.3
Peru	620	2.1	14,531	2.9	45.6
Uruguay	950	-0.2	2,995	1.3	16.7
Venezuela	1,630	2.0	11,279	3.4	26.2
REGION II					
Bermuda <sup>1/</sup>	4,710	4.6	55	1.6	---
Costa Rica	710	2.7	1,872	3.1	44.6
Cuba <sup>1/</sup>	540	-1.0	8,920	2.0	32.8
Dominican Rep.	520	2.7	4,432	2.9	60.8
El Salvador	350	1.9	3,771	3.5	56.8
Guadeloupe <sup>1/</sup>	1,050	4.3	342	1.6	43.0
Guatemala	500	3.3	5,175	2.4	62.7
Haiti	130	-0.3	4,454	1.7	77.1
Honduras	320	1.3	2,781	3.2	66.7
Jamaica	990	3.6	1,967	1.6	27.0
Mexico	890	3.3	56,047	3.5	46.6
Nicaragua	540	3.3	1,973	2.6	55.8
Panama	920	4.4	1,570	3.1	43.1

Sources: World Bank Atlas : Population, Per Capita Product and Growth Rates (Washington, D.C., 1975),  
FAO Production Yearbook, 1974 (Rome, 1975).

<sup>1/</sup> Estimates of GNP per capita and its growth rates are tentative.

Table II.5: CIP REGION III - GROSS NATIONAL PRODUCT PER CAPITA AND POPULATION

COUNTRY	GNP Per Capita		Population		
	US dollars 1973	annual ave. change, % 1960 - 73	thousand 1973	annual ave. change, % 1960 - 73	per cent rural 1970
Angola	490	3.8	5,717	1.3	63.5
Burundi <sup>1/</sup>	80	1.3	3,580	2.0	85.6
Cameroon	250	3.2	6,206	2.0	81.8
Central Afr. Rep.	160	0.4	1,710	2.2	87.2
Congo	340	1.7	1,199	2.7	45.3
Ethiopia	90	2.4	26,550	2.2	84.6
Kenya	170	3.1	12,480	3.2	80.4
Madagascar	150	0.3	8,301	2.7	86.5
Malawi	110	3.5	4,833	2.6	87.5
Mauritania	200	4.1	1,257	2.1	85.0
Mauritius	410	0.4	860	2.1	31.5
Mozambique <sup>1/</sup>	380	3.3	8,283	2.0	71.9
Nigeria	210	3.6	71,262	2.5	67.0
Reunion <sup>1/</sup>	1,210	4.7	470	2.7	36.2
Rwanda <sup>1/</sup>	70	0.3	3,980	3.4	90.8
Senegal	280	-1.8	4,070	2.1	75.6
Sudan <sup>1/</sup>	130	-0.9	17,051	2.8	79.9
Swaziland <sup>1/</sup>	330	6.9	463	3.0	82.1
Tanzania <sup>2/</sup>	130	2.8	13,974	2.9	85.9
Uganda	150	2.1	10,829	2.8	85.9
Zaire	140	2.6	23,438	2.7	78.3
Zambia	430	1.7	4,646	2.9	69.4

Sources: World Bank Atlas: Population, Per Capita Product and Growth Rates (Washington, D.C., 1975).  
FAO Production Yearbook, 1974 (Rome, 1975).

<sup>1/</sup> Estimates of GNP per capita and its growth rates are tentative.

<sup>2/</sup> Mainland Tanzania.

Table II.6: CIP REGION IV - GROSS NATIONAL PRODUCT PER CAPITA AND POPULATION

COUNTRY	GNP Per Capita		Population		
	US dollars 1973	annual ave. change, % 1960 - 73	thousand 1973	annual ave. change, % 1960 - 73	per cent rural 1970
Algeria	570	1.7	14,700	3.2	55.7
Cyprus	1,460	6.1	635	0.9	34.7
Egypt	250	1.5	35,619	2.5	54.8
Iraq	850	2.9	10,410	3.2	46.6
Jordan	340	1.3	2,540	3.3	38.7
Kuwait	12,050	-2.1	880	9.4	1.0
Lebanon	940	3.0	2,977	2.6	47.4
Lybian Arab Rep.	3,530	10.5	2,160	3.7	42.6
Morocco	320	1.6	15,903	2.4	60.6
Syrian Arab Rep.	400	3.8	6,948	3.3	48.8
Tunisian Rep. <sup>1/</sup>	460	3.4	5,459	2.1	46.4
Turkey	600	3.9	37,930	2.5	69.1
Yemen Arab <sup>2/</sup>	100	s.n.	6,217	2.4	73.3

Sources: World Bank Atlas: Population, Per Capita Product and Growth Rates (Washington, D.C., 1975).  
FAO Production Yearbook, 1974 (Rome, 1975).

<sup>1/</sup> GNP Per capita growth rates relates to 1961/73.

<sup>2/</sup> Estimates of GNP Per capita and its growth rates are tentative.

Table II.7: CIP REGIONS V, VI AND VII - GROSS NATIONAL PRODUCT PER CAPITA AND POPULATION

COUNTRY	GNP Per Capita		Population		
	US dollars 1973	annual ave. change, % 1960 - 73	thousand 1973	annual ave. change, % 1960 - 73	per cent rural 1970
REGION V					
Afghanistan	90	0.3	16,634	2.2	81.5
Iran	870	6.4	32,136	3.2	46.3
Pakistan	120	3.4	66,230	2.9	70.5
REGION VI					
Bangladesh	80	-0.2	74,000	2.6	70.5
Bhutan <sup>1/</sup>	60	-0.3	1,124	2.3	---
India	120	1.3	581,911	2.3	67.7
Nepal	90	0.4	12,020	1.9	91.6
Sikkim <sup>1/</sup>	90	-0.3	216	2.4	---
REGION VII					
Burma	80	0.7	29,509	2.2	63.7
Indonesia	130	2.4	124,415	2.0	70.0
Korea Rep.	400	7.1	32,905	2.2	58.0
Laos <sup>1/</sup>	60	1.9	3,180	2.4	78.3
Philippines	280	2.3	40,219	3.0	69.5
Port Timor <sup>1/</sup>	130	1.1	640	1.8	65.6
Sri Lanka	120	2.0	13,180	2.3	52.3
Thailand	270	4.8	39,400	3.1	76.5

Sources: World Bank Atlas: Population, Per Capita Product and Growth Rates (Washington, D.C., 1975).  
FAO Production Yearbook, 1974 (Rome, 1975).

<sup>1/</sup> Estimates of GNP per capita and its growth rates are tentative.



Table II.8: CIP REGION I AND II - POTATO PRODUCTION AND CONSUMPTION

COUNTRY	Area thousand ha	Yield t/ha	Production thousand ton	Per capita production kg/yr	Per cent cropland in potato	Per capita potato consumption kg/yr	Nutritional Contribution of potatoes	
							% vegetal calories	% vegetal protein
REGION I								
Argentina	125	12.5	1,558	64.2	0.5	58.8	6.6	8.6
Bolivia	118*	6.2	727	136.4	8.2	94.4	13.1	14.2
Brazil	193*	8.5	1,649*	16.3	0.6	10.2	0.9	1.2
Chile	83	9.3	771	75.4	1.8	56.6	6.2	7.7
Colombia	88	12.6	1,108	49.2	1.7	35.0	3.3	5.5
Ecuador	43*	11.3	484*	71.3	1.1	53.9	6.7	7.9
Paraguay	1	5.0	5	2.1	0.1	1.2	0.3	0.3
Peru	251	5.5	1,381	95.0	8.7	60.7	8.6	10.2
Uruguay	25	4.9	123	41.1	1.4	35.7	4.0	5.0
Venezuela	12	9.9	119*	10.6	0.2	8.8	1.1	1.4
REGION II								
Bermuda	s.n.	20.0	1F	18.2	---	---	---	---
Costa Rica	4F	8.8	35F	18.7	0.4	15.0	1.2	2.5
Cuba	14F	5.3	74F	8.3	0.4	10.7	1.4	2.0
Dominican Rep.	2F	13.0	26*	5.9	0.2	5.0	0.4	0.7
El Salvador	1F	9.0	9	2.4	0.2	3.7	0.2	0.3
Guadeloupe	s.n.	8.1	s.n.	---	---	---	---	---
Guatemala	6F	3.8	23	4.4	0.4	1.4	0.2	0.3
Haiti	1F	14.4	7	1.6	0.3	1.6	---	---
Honduras	1F	3.0	3	1.1	0.1	1.1	0.2	0.3
Jamaica	1F	11.0	11	5.6	0.4	5.1	0.7	0.9
Mexico	40F	11.3	454*	8.1	0.1	6.7	0.5	0.6
Nicaragua	s.n.	4.3	1F	0.5	---	5.6	---	---
Panama	1F	13.0	13F	8.3	0.2	7.0	0.6	0.8

Sources: FAO Production Yearbook, 1974 (Rome, 1975). World Bank Atlas: Population, Per Capita Product and Growth Rates (Washington, D.C., 1975). FAO Food Balance Sheets, 1964-66 (Rome, 1971).

Table II.9: CIP REGION III - POTATO PRODUCTION AND CONSUMPTION

COUNTRY	Area thousand ha	Yield t/ha	Production thousand ton	Per capita production kg/yr	Per cent cropland in potato	Per capita potato consumption kg/yr	Nutritional Contribution of potatoes	
							% vegetal calories	% vegetal protein
REGION III								
Angola	5F	7.0	35F	6.1	0.6	4.9	0.7	1.0
Burundi	20F	11.0	219F	61.2	1.7	48.0	2.1	1.7
Cameroon	15F	2.6	39F	6.3	0.2	5.0	0.3	0.2
Central Afr. Rep.	s.n.	2.0	s.n.	---	---	---	0.0	---
Congo	s.n.	24.7	3F	2.5	---	2.5	0.2	0.4
Ethiopia	32F	5.3	170F	6.4	0.2	4.9	0.5	0.3
Kenya	55F	3.9	213F	17.1	3.3	9.6	1.1	0.9
Madagascar	21F	6.0	125F	15.1	0.7	12.5	0.9	1.1
Malawi	1F	3.0	3F	0.6	s.n.	0.4	0.0	---
Mauritania	s.n.	16.0	2F	1.6	---	3.2	0.1	---
Mauritius	1F	10.0	10F	11.6	0.9	11.6	0.9	1.4
Mozambique	3F	6.0	18F	2.2	0.1	2.1	0.4	---
Nigeria	2F	13.5	27F	0.4	s.n.	0.4	---	---
Reunion	s.n.	10.6	2F	4.3	---	---	---	---
Rwanda	19F	6.8	130F	32.7	2.4	19.3	0.9	0.8
Senegal	1F	5.0	5F	1.2	s.n.	3.7	0.3	0.5
Sudan	2F	12.0	24F	1.4	s.n.	1.1	0.2	0.2
Swaziland	3F	2.0	6F	13.0	2.0	---	---	---
Tanzania	27F	3.7	101F	7.2	0.2	5.8	0.2	0.2
Uganda	5F	5.0	24F	2.2	0.1	1.8	0.3	0.2
Zaire	10F	4.3	43	1.8	0.1	---	---	---
Zambia	s.n.	8.7	3F	0.6	---	0.6	0.2	0.2

Sources: FAO Production Yearbook, 1974 (Rome, 1975). World Bank Atlas: Population, Per Capita Product and Growth Rates (Washington, D.C., 1975). FAO Food Balance Sheets, 1964-66 (Rome, 1971).

Table II.10: CIP REGIONS IV AND V - POTATO PRODUCTION AND CONSUMPTION

COUNTRY	Area thousand ha	Yield t/ha	Production thousand ton	Per capita production kg/yr	Per cent cropland in potato	Per capita potato consumption kg/yr	Nutritional Contribution of potatoes	
							% vegetal calories	% vegetal protein
REGION IV								
Algeria	46F	7.3	337F	22.9	0.7	20.5	1.7	1.4
Cyprus	9F	19.1	172F	272.4	2.1	26.8	3.4	3.0
Egypt	41F	17.4	715F	20.1	1.4	---	---	---
Iraq	1F	12.0	12F	1.2	s.n.	3.1	0.3	0.5
Jordan	s.n.	8.4	s.n.	2.4	---	5.5	1.1	1.1
Kuwait	s.n.	19.0	s.n.	---	---	---	---	---
Lebanon	9F	13.1	118F	39.6	2.8	26.5	1.7	1.6
Libyan Arab Rep.	15F	4.6	69F	31.9	0.6	25.5	0.6	0.7
Morocco	28F	8.2	231F	14.5	0.4	7.0	0.9	0.8
Syrian Arab Rep.	8	14.3	114	16.4	0.1	15.1	0.8	0.7
Tunisian Rep.	4F	21.2	85	15.6	0.1	14.7	1.0	1.0
Turkey	178F	12.4	2,200	58.0	0.6	43.2	3.2	1.7
Yemen Arab	5F	10.6	53F	8.5	0.4	6.1	0.7	0.6
REGION V								
Afghanistan	5F	4.2	21F	1.3	0.1	0.8	0.1	---
Iran	53F	8.8	467F	14.5	0.3	11.7	0.7	0.7
Pakistan	23	10.7	245	3.7	0.1	2.8	0.4	0.5

Sources: FAO Production Yearbook, 1974 (Rome, 1975). World Bank Atlas: Population, Per Capita Product and Growth Rates (Washington, D.C., 1975). FAO Food Balance Sheets, 1964-66 (Rome, 1971).

Table II.11: CIP REGIONS VI AND VII - POTATO PRODUCTION AND CONSUMPTION

COUNTRY	Area thousand ha	Yield t/ha	Production thousand ton	Per capita production kg/yr	Per cent cropland in potato	Per capita potato consumption kg/yr	Nutritional Contribution of potatoes	
							% vegetal calories	% vegetal protein
REGION VI								
Bangladesh	78	9.6	748	10.1	0.9	---	---	---
Bhutan	5F	6.4	32F	28.5	---	---	---	---
India	510	9.1	4,634	8.0	0.3	5.3	0.5	0.4
Nepal	51F	5.8	296	24.6	2.6	15.4	1.6	1.5
Sikkim	2F	4.5	9F	41.7	20.0	---	---	---
REGION VII								
Burma	9F	5.2	47F	1.6	s.n.	1.2	0.1	0.3
Indonesia	35F	3.7	131F	1.1	0.2	0.8	0.1	---
Korea Rep.	43F	10.8	466F	14.2	1.9	11.3	0.6	---
Laos	3F	5.0	15F	4.7	0.3	---	---	---
Philippines	4F	6.0	24F	0.6	s.n.	0.4	0.1	---
Port Timor	s.n.	2.5	1F	1.6	---	---	---	---
Sri Lanka	3*	11.7	35	2.7	0.2	---	---	---
Thailand	1F	10.0	10F	0.3	s.n.	0.2	---	---

Sources: FAO Production Yearbook, 1974 (Rome, 1975). World Bank Atlas: Population, Per Capita Product and Growth Rates (Washington, D.C., 1975). FAO Food Balance Sheets, 1964-66 (Rome, 1971).

Table II.12: CIP REGION I AND II - POTATO BALANCE SHEETS 1972/74

COUNTRY	Production (.....thousand tons.....)	Export	Import	Domestic Availability	Feed (.....per cent of Dom. Avail.....)	Seed	Waste	Fresh Food
REGION I								
Argentina	1,558	s.n.	159	1,717	0.0	8.7	8.1	83.2
Bolivia	727	s.n.	s.n.	727	5.1	18.7	7.0	69.2
Brazil	1,649*	5	18	1,662	0.0	28.1	10.1	61.8
Chile	771	0	3	774	0.0	16.3	8.9	74.8
Colombia	1,108	s.n.	0	1,108	10.1	8.8	10.1	71.0
Ecuador	484*	---	---	484	5.0	12.3	7.0	75.6
Paraguay	5	---	s.n.	5	0.0	40.0	0.0	60.0
Peru	1,381	s.n.	6	1,387	0.0	18.4	18.0	63.6
Uruguay	123	0	15	138	14.6	0.0	7.7	77.7
Venezuela	119	0	11	130	5.7	8.5	9.9	75.9
REGION II								
Bermuda	1F	---	2	3	---	---	---	---
Costa Rica	35F	s.n.	s.n.	35	0.0	10.5	10.1	79.4
Cuba	74F	---	40	114	2.1	5.0	9.9	83.0
Dominican Rep.	26*	---	1	27	0.0	5.6	11.1	83.3
El Salvador	9	0	8	17	0.0	9.2	6.2	84.6
Guadeloupe	---	---	5	5	---	---	---	---
Guatemala	23F	10	s.n.	13	0.0	28.1	16.5	55.4
Haiti	7F	---	---	7	0.0	0.0	0.0	100.0
Honduras	3F	s.n.	1	4	0.0	2.0	12.0	86.0
Jamaica	11F	2	3	12	0.0	6.7	6.7	86.7
Mexico	454*	1	8	461	0.0	8.7	10.0	81.3
Nicaragua	1F	s.n.	13	14	0.0	7.7	11.5	80.8
Panama	13F	s.n.	1	14	0.0	7.2	7.1	85.7

Sources: FAO Production Yearbook, 1974 (Rome, 1975). IBRD Economic Analysis and Projections Department.  
FAO Food Balance Sheets, 1964-66 (Rome, 1971).

Table II.13: CIP REGION III - POTATO BALANCE SHEETS 1972/74

COUNTRY	Production	Export	Import	Domestic Availability	Feed	Seed	Waste	Fresh Food
	(.....thousand tons.....)							(.....per cent of Dom. Avail.....)
REGION III								
Angola	35F	1	s.n.	34	0.0	9.3	9.3	81.4
Burundi	219F	---	s.n.	219	0.0	12.5	9.1	78.4
Cameroon	39F	s.n.	s.n.	39	0.0	10.0	10.0	80.0
Central Afr. Rep.	---	---	---	---	---	---	---	---
Congo	3F	0	s.n.	3	0.0	0.0	10.0	90.0
Ethiopia	170F	2	s.n.	168	0.0	17.5	5.1	77.4
Kenya	213F	3	1	211	0.0	22.5	20.9	56.7
Madagascar	125F	s.n.	0	125	0.0	10.3	6.4	83.3
Malawi	3F	s.n.	s.n.	3	0.0	33.3	0.0	66.7
Mauritania	2F	---	2	4	0.0	0.0	0.0	100.0
Mauritius	10F	s.n.	2	12	0.0	10.0	10.0	80.0
Mozambique	18F	1	4	21	4.8	9.5	4.8	81.0
Nigeria	27F	---	s.n.	27	0.0	0.0	0.0	100.0
Reunion	2F	0	1	3	---	---	---	---
Rwanda	130F	0	0	130	0.0	31.8	9.1	59.1
Senegal	5F	2	16	19	0.0	6.7	13.3	80.0
Sudan	24F	s.n.	s.n.	24	0.0	7.7	11.5	80.8
Swaziland	6F	---	---	6	---	---	---	---
Tanzania	101F	1	1	101	0.0	15.0	5.0	80.0
Uganda	24F	s.n.	2	26	0.0	24.0	0.0	76.0
Zaire	43	s.n.	3	46	---	---	---	---
Zambia	3F	---	s.n.	3	0.0	0.0	0.0	100.0

Sources: FAO Production Yearbook, 1974 (Rome, 1975), IBRD Economic Analysis and Projections Department.  
FAO Food Balance Sheets, 1964-66 (Rome, 1971).

Table II.14: CIP REGION IV AND V - POTATO BALANCE SHEETS 1972/74

COUNTRY	Production	Export	Import	Domestic Availability	Feed	Seed	Waste	Fresh Food
	(.....thousand tons.....)				(.....per cent of Dom. Avail.....)			
REGION IV								
Algeria	337F	8	76	405	0.0	15.0	10.7	74.3
Cyprus	173F	140	10	43	25.7	17.0	17.9	39.4
Egypt	715F	95	12	632	---	---	---	---
Iraq	12F	1	26	37	0.0	3.2	9.7	87.1
Jordan	1F	1	17	17	0.0	5.7	10.7	83.6
Kuwait	---	1	15	14	---	---	---	---
Lebanon	118	34	1	85	0.0	0.0	6.6	93.4
Libyan Arab Rep.	69F	0	2	71	0.0	18.3	4.2	77.5
Morocco	231F	81	31	181	0.0	22.8	15.3	61.9
Syrian Arab Rep.	114	1	14	127	0.0	6.9	10.3	82.8
Tunisian Rep.	85*	3	13	95	0.0	5.2	10.3	84.5
Turkey	2,200	14	s.n.	2,186	2.0	13.0	10.0	75.0
Yemen Arab	53F	5	---	48	0.0	10.0	10.0	80.0
REGION V								
Afghanistan	21F	s.n.	---	21	0.0	25.0	10.0	65.0
Iran	467	12	s.n.	455	0.0	6.6	10.6	82.8
Pakistan	245	2	s.n.	243	0.0	14.3	9.9	75.8

Sources: FAO Production Yearbook, 1974 (Rome, 1975). IBRD Economic Analysis and Projections Department.  
FAO Food Balance Sheets, 1964-66 (Rome, 1971).

Table II.15: CIP REGION VI AND VII - POTATO BALANCE SHEETS 1972/74

COUNTRY	Production	Export	Import	Domestic Availability	Feed	Seed	Waste	Fresh Food
	(.....thousand tons.....)				(.....per cent of Dom. Avail.....)			
REGION VI								
Bangladesh	748	---	3	751	---	---	---	---
Bhutan	32F	s.n.	---	32	---	---	---	---
India	4,634	4	1	4,631	0.0	16.5	17.0	66.5
Nepal	296	1	2	297	0.0	18.5	19.2	62.3
Sikkim	9F	1	---	8	---	---	---	---
REGION VII								
Burma	47F	0	---	47	0.0	17.1	9.8	73.2
Indonesia	131F	4	s.n.	127	0.0	17.1	4.9	78.0
Korea Rep.	466	s.n.	s.n.	466	0.7	9.5	10.0	79.9
Laos	15F	---	s.n.	15	---	---	---	---
Philippines	24F	s.n.	s.n.	24	0.0	17.6	5.9	76.5
Port Timor	1	---	s.n.	1	---	---	---	---
Sri Lanka	35	s.n.	3	38	---	---	---	---
Thailand	10F	s.n.	s.n.	10	0.0	16.7	16.7	66.7

Sources: FAO Production Yearbook, 1974 (Rome, 1975). IBRD Economic Analysis and Projections Department.  
FAO Food Balance Sheets, 1964-66 (Rome, 1971).



Table II.16: CIP REGIONS - 41 LARGEST POTATO PRODUCING COUNTRIES IN TERMS OF VOLUME OF PRODUCTION

(Page 1 of 2)

COUNTRY (5,000 ha +)	CIP Region	Production thousand ton	Per Cent of Total Production	Cumulative Per Cent
1. India	VI	4,634	22.0	22.0
2. Turkey	IV	2,200	10.4	32.4
3. Brazil	I	1,649*	7.8	40.3
4. Argentina	I	1,558	7.4	47.7
5. Peru	I	1,381	6.6	54.2
6. Colombia	I	1,107	5.3	59.5
7. Chile	I	771	3.7	63.1
8. Bangladesh	VI	748	3.6	66.7
9. Bolivia	I	727	3.5	70.1
10. Egypt	IV	715F	3.4	73.5
11. Ecuador	I	484*	2.3	75.8
12. Iran	V	467F	2.2	78.0
13. Korea Rep.	VII	466F	2.2	80.2
14. Mexico	II	454*	2.2	82.4
15. Algeria	IV	337F	1.6	84.0
16. Nepal	VI	296	1.4	85.4
17. Pakistan	V	245	1.2	86.6
18. Morocco	IV	231F	1.1	87.7
19. Burundi	III	219F	1.0	88.7
20. Kenya	III	213F	1.0	89.7
21. Cyprus	IV	172F	0.8	90.5
22. Ethiopia	III	170F	0.8	91.3
23. Indonesia	VII	131F	0.6	92.0
24. Rwanda	III	130F	0.6	92.6
25. Madagascar	III	125F	0.6	93.2

Table II.16: CIP REGIONS - 41 LARGEST POTATO PRODUCING COUNTRIES IN TERMS OF VOLUME OF PRODUCTION

(Page 2 of 2)

COUNTRY (5,000 ha +)	CIP Region	Production thousand ton	Per Cent of Total Production	Cumulative Per Cent
26. Uruguay	I	123	0.6	93.7
27. Venezuela	I	119*	0.6	94.3
28. Lebanon	IV	118F	0.6	94.9
29. Syrian Arab Rep.	IV	114	0.5	95.4
30. Tanzania	III	101F	0.5	95.9
31. Cuba	II	74F	0.4	96.2
32. Libyan Arab Rep.	IV	69F	0.3	96.6
33. Yemen Arab	IV	53F	0.3	96.8
34. Burma	VII	47F	0.2	97.0
35. Zaïre	III	43	0.2	97.3
36. Cameroon	III	39F	0.2	97.4
37. Angola	III	35F	0.2	97.6
38. Bhutan	VI	32F	0.2	97.8
39. Uganda	III	24F	0.1	97.9
40. Guatemala	II	23	0.1	98.0
41. Afghanistan	V	21F	0.1	98.1
Remaining 33 countries		405	1.9	100.0
Total CIP Regions		21,070	100.0	100.0

Source: FAO Production Yearbook, 1974 (Rome, 1975).

Table II.17: CIP REGIONS - 41 LARGEST POTATO PRODUCING COUNTRIES IN TERMS OF SEEDED AREA

(Page 1 of 2)

COUNTRY (5,000 ha +)	CIP Region	Area thousand ha	Per Cent of total Area	Cumulative Per Cent
1. India	VI	510	21.1	21.2
2. Peru	I	251	10.5	31.7
3. Brazil	I	193*	8.0	39.7
4. Turkey	IV	178F	7.4	47.1
5. Argentina	I	125	5.2	52.4
6. Bolivia	I	118*	4.9	57.3
7. Colombia	I	88F	3.7	60.9
8. Chile	I	83	3.5	64.4
9. Bangladesh	VI	78	3.2	67.6
10. Kenya	III	55F	2.3	69.9
11. Iran	V	53F	2.2	72.1
12. Nepal	VI	51F	2.1	74.3
13. Algeria	IV	46F	1.9	76.2
14. Ecuador	I	43*	1.8	78.0
15. Korea Rep.	VII	43F	1.8	79.8
16. Egypt	IV	41F	1.7	81.5
17. Mexico	II	40F	1.7	83.1
18. Indonesia	VII	35F	1.5	84.6
19. Ethiopia	III	32F	1.3	85.9
20. Morocco	IV	28F	1.2	87.1
21. Tanzania	III	27F	1.1	88.2
22. Uruguay	I	25F	1.0	89.3
23. Pakistan	V	23	1.0	90.2
24. Madagascar	III	21F	0.9	91.1
25. Burundi	III	20F	0.8	91.9

Table II.17: CIP REGIONS - 41 LARGEST POTATO PRODUCING COUNTRIES IN TERMS OF SEEDED AREA

(Page 2 of 2)

COUNTRY (5,000 ha +)	CIP Region	Area thousand ha	Per Cent of total Area	Cumulative Per Cent
26. Rwanda	III	19F	0.8	92.7
27. Libyan Arab Rep.	IV	15F	0.6	93.3
28. Cameroon	III	15F	0.6	94.0
29. Cuba	II	14F	0.6	94.5
30. Venezuela	I	12F	0.5	95.0
31. Zaire	III	10F	0.4	95.5
32. Cyprus	IV	9F	0.4	95.8
33. Lebanon	IV	9F	0.4	96.2
34. Burma	VII	9F	0.4	96.6
35. Syrian Arab Rep.	IV	8	0.3	96.9
36. Guatemala	II	6F	0.2	97.2
37. Angola	III	5F	0.2	97.4
38. Uganda	III	5F	0.2	97.6
39. Yemen Arab	IV	5F	0.2	97.8
40. Afghanistan	V	5F	0.2	98.0
41. Bhutan	VI	5F	0.2	98.2
Remaining 33 countries		43	1.8	100.0
Total CIP Regions		2,401	100.0	100.0

Source: FAO Production Yearbook, 1974 (Rome, 1975).

Table II.18: CIP REGIONS - POTATO YIELDS IN 31 MAJOR PRODUCING COUNTRIES

COUNTRY (10,000 ha +)	CIP Region	Yield t/ha
1. Egypt	IV	17.4
2. Colombia	I	12.6
3. Argentina	I	12.5
4. Turkey	IV	12.4
5. Ecuador	I	11.3
6. Mexico	II	11.3
7. Burundi	III	11.0
8. Korea Rep.	VII	10.8
9. Pakistan	V	10.7
10. Venezuela	I	9.9
11. Bangladesh	VI	9.6
12. Chile	I	9.3
13. India	VI	9.1
14. Iran	V	8.8
15. Brazil	I	8.5
16. Morocco	IV	8.2
17. Algeria	IV	7.3
18. Rwanda	III	6.8
19. Bolivia	I	6.2
20. Madagascar	III	6.0
21. Nepal	VI	5.8
22. Peru	I	5.5
23. Cuba	II	5.3
24. Ethiopia	III	5.3
25. Uruguay	I	4.9
26. Libyan Arab Rep.	IV	4.6
27. Zaïre	III	4.3
28. Kenya	III	3.9
29. Tanzania	III	3.7
30. Indonesia	VII	3.7
31. Cameroon	III	2.6

Source: FAO Production Yearbook, 1974 (Rome, 1975).

Table II.19: CIP REGIONS - AREA UNDER POTATOES AS PER CENT OF CROPLAND IN 31 MAJOR PRODUCING COUNTRIES

COUNTRY (ha +)	CIP Region	Area as % of Total Cropland
1. Peru	I	8.7
2. Bolivia	I	8.2
3. Kenya	III	3.3
4. Nepal	VI	2.6
5. Rwanda	III	2.4
6. Korea Rep.	VII	1.9
7. Chile	I	1.8
8. Colombia	I	1.7
9. Burundi	III	1.7
10. Uruguay	I	1.4
11. Egypt	IV	1.4
12. Ecuador	I	1.1
13. Bangladesh	VI	0.9
14. Madagascar	III	0.7
15. Algeria	IV	0.7
16. Brazil	I	0.6
17. Libyan Arab Rep.	IV	0.6
18. Turkey	IV	0.6
19. Argentina	I	0.5
20. Cuba	II	0.4
21. Morocco	IV	0.4
22. India	VI	0.3
23. Venezuela	I	0.2
24. Cameroon	III	0.2
25. Ethiopia	III	0.2
26. Tanzania	III	0.2
27. Indonesia	VII	0.2
28. Mexico	II	0.1
29. Zaïre	V	0.1
30. Afghanistan	V	0.1
31. Pakistan	III	0.1

Source: FAO Production Yearbook, 1974 (Rome, 1975).

Table II.20: CIP REGIONS - POTATO PRODUCTION PER CAPITA IN 31 MAJOR PRODUCING COUNTRIES

COUNTRY (10,000 ha +)	CIP Region	Production Per Capita (kg/yr)
1. Bolivia	I	136.4
2. Peru	I	95.0
3. Chile	I	75.4
4. Ecuador	I	71.3
5. Argentina	I	64.2
6. Burundi	III	61.2
7. Turkey	IV	58.0
8. Colombia	I	49.2
9. Uruguay	I	41.1
10. Rwanda	III	32.7
11. Libyan Arab Rep.	IV	31.9
12. Nepal	VI	24.6
13. Algeria	III	22.9
14. Egypt	IV	20.1
15. Kenya	III	17.1
16. Brazil	I	16.3
17. Madagascar	III	15.1
18. Morocco	IV	14.5
19. Iran	V	14.5
20. Korea Rep.	VII	14.2
21. Venezuela	I	10.6
22. Bangladesh	VI	10.1
23. Cuba	II	8.3
24. Mexico	II	8.1
25. India	VI	8.0
26. Tanzania	III	7.2
27. Ethiopia	III	6.4
28. Cameroon	III	6.3
29. Pakistan	V	3.7
30. Zaire	III	1.8
31. Indonesia	VII	1.1

Sources: World Bank Atlas: Population, Per Capita Product and Growth Rates (Washington, D.C., 1975).  
FAO Production Yearbook, 1974 (Rome, 1975).

Table II.21: CIP REGIONS - PER CENT CHANGE IN POTATO PRODUCTION (1961/65-1972/74) IN 31 MAJOR PRODUCING COUNTRIES

COUNTRY (10,000 ha +)	CIP Region	Per Cent Change Production
1. Libyan Arab Rep.	IV	475.0
2. Tanzania	III	431.6
3. Burundi	III	204.2
4. Cameroon	III	129.4
5. Zaïre	III	126.3
6. Bangladesh	VI	111.3
7. Rwanda	III	109.7
8. Indonesia	VII	107.9
9. Pakistan	V	84.2
10. Egypt	IV	80.1
11. India	VI	57.3
12. Nepal	VI	54.2
13. Ecuador	I	54.1
14. Colombia	I	52.8
15. Algeria	IV	50.4
16. Madagascar	III	45.3
17. Brazil	I	40.0
18. Turkey	IV	39.7
19. Iran	V	37.4
20. Bolivia	I	33.2
21. Ethiopia	III	26.9
22. Mexico	II	24.0
23. Uruguay	I	12.8
24. Kenya	III	10.4
25. Morocco	IV	10.0
26. Venezuela	I	5.3
27. Chile	I	-2.8
28. Korea Rep.	VII	-3.5
29. Peru	I	-7.1
30. Argentina	I	-10.4
31. Cuba	II	-16.9

Source: FAO Production Yearbook, 1974 (Rome, 1975).



Table II.22: CIP REGIONS - PER CENT CHANGE IN AREA UNDER POTATOES (1961/65-1972/74) IN 31 MAJOR PRODUCING COUNTRIES

COUNTRY (10,000 ha +)	CIP Region	Per Cent Change Area
1. Libyan Arab Rep.	IV	400.0
2. Cameroon	III	400.0
3. Tanzania	III	350.0
4. Zaire	III	233.3
5. Burundi	III	122.2
6. Indonesia	VII	105.9
7. Algeria	IV	84.0
8. Madagascar	III	75.0
9. Egypt	IV	70.8
10. Pakistan	V	53.3
11. Bangladesh	VI	39.3
12. Morocco	IV	33.3
13. Colombia	I	31.3
14. India	VI	27.8
15. Turkey	IV	24.5
16. Iran	V	23.3
17. Nepal	VI	21.4
18. Ecuador	I	19.4
19. Ethiopia	III	18.5
20. Uruguay	I	8.7
21. Kenya	III	7.8
22. Bolivia	I	6.3
23. Rwanda	III	5.6
24. Peru	I	-2.0
25. Brazil	I	-3.5
26. Cuba	II	-6.7
27. Chile	I	-7.8
28. Mexico	II	-13.0
29. Korea Rep.	VII	-14.0
30. Venezuela	I	-14.3
31. Argentina	I	-30.2

Source: FAO Production Yearbook, 1974 (Rome, 1975).

Table II.23: CIP REGIONS - PER CENT CHANGE IN POTATO YIELDS (1961/65-1972/74) IN 31 MAJOR PRODUCING COUNTRIES

COUNTRY (10,000 ha +)	CIP Region	Per Cent Change Yield
1. Rwanda	III	100.0
2. Bangladesh	VI	52.4
3. Brazil	I	44.1
4. Mexico	II	41.2
5. Burundi	III	37.5
6. Ecuador	I	29.9
7. Argentina	I	28.9
8. Bolivia	I	26.5
9. Nepal	VI	26.1
10. India	VI	23.0
11. Venezuela	I	22.2
12. Pakistan	V	20.2
13. Colombia	I	16.7
14. Tanzania	III	15.6
15. Libyan Arab Rep.	IV	15.0
16. Turkey	IV	15.0
17. Iran	V	11.4
18. Korea Rep.	VII	11.3
19. Ethiopia	III	6.0
20. Chile	I	5.7
21. Egypt	IV	5.4
22. Uruguay	I	4.2
23. Kenya	III	2.6
24. Indonesia	VII	0.0
25. Peru	I	-5.2
26. Cuba	II	-10.2
27. Madagascar	III	-16.7
28. Morocco	IV	-18.0
29. Algeria	IV	-18.9
30. Zaïre	III	-31.7
31. Cameroun	III	-54.4

Source: FAO Production Yearbook, 1974 (Rome, 1975).

### Section III

#### Regression Analysis of International Potato Statistics

### Section III

#### REGRESSION ANALYSIS OF INTERNATIONAL POTATO STATISTICS

Empirical and theoretical work on agricultural development indicates that many aspects of foodstuff production and utilization are related to the level of socioeconomic development of a country\*. In low-income countries, where the population is overwhelmingly rural and industrial development is incipient, crop yields tend to be lower, use of purchased inputs (e.g. fertilizer and pesticides) more limited, and food processing less common than in highly developed economies. For countries at a given level of development, where population density is higher, land tends to be more expensive relative to labor and capital, and, hence, use of purchased inputs tends to be more intensive and yields higher.

Consumer studies indicate that, other things equal, the income elasticity of demand for a good is inversely related to the level (quantity) of consumption.

In this section regression analysis is applied to international statistics in order to determine the extent to which systematic relationships can be identified between levels of GNP per capita, man-land ratios, and per-capita potato consumption, on one hand, and levels and trends in potato production, yields, use of purchased inputs and utilization on the other hand.

Russia, China and Poland account for a very large share of world potato production. At the other extreme, a large number of countries produce very small quantities of potatoes. Estimates of area, volume and (especially) yield are poor for those small countries. In order to minimize the effects of country size and poor data quality on the regression results, several countries were excluded from the analysis and the remaining countries were grouped into 20 strata, each with approximately

the same area seeded to potatoes\*. In defining the strata, the following steps were taken : (1) The 3 largest potato producers (Russia, China and Poland) and the 63 smallest producers cultivating less than 10,000 hectares of potatoes were excluded. (2) The remaining 59 countries were rank ordered in terms of GNP per capita. (3) The countries were grouped into 20 strata, each with approximately the same area seeded to potatoes.

Tables III.1-4 present statistics on the 59 countries and 20 strata, listed in descending order of GNP per capita; data for Russia, China and Poland are also presented at the end of each table. Income and population statistics are summarized in Table III.1; input statistics in Table III.2; potato production and consumption in Table III.3; and changes in potato production, yields and use of purchased inputs in Table III.4.

Figures III.1-5 illustrate the relationship between GNP per capita (as a proxy for "development level") and certain aspects of potato production and utilization. The equations which best summarize these relationships are presented in Table III.5. The figures and regression results indicate that there are significant relations between GNP per capita and use of purchased inputs, per capita potato consumption, the percentage of potatoes processed and, especially, yields (Figures and equations 1-5). There is also a significant relation between the level of per capita potato consumption in each stratum in the period 1961/65 and the rate of change in production 1961/5-1972/74 (Figure and equation 6). Estimates of income elasticities of demand for potatoes were calculated using the formula:

$$\text{Elasticity} = \frac{\text{Annual average percent change per capita potato production 1961/65 - 1972/74}}{\text{Annual average percent change GNP per capita 1961/64 - 1972/74}}$$

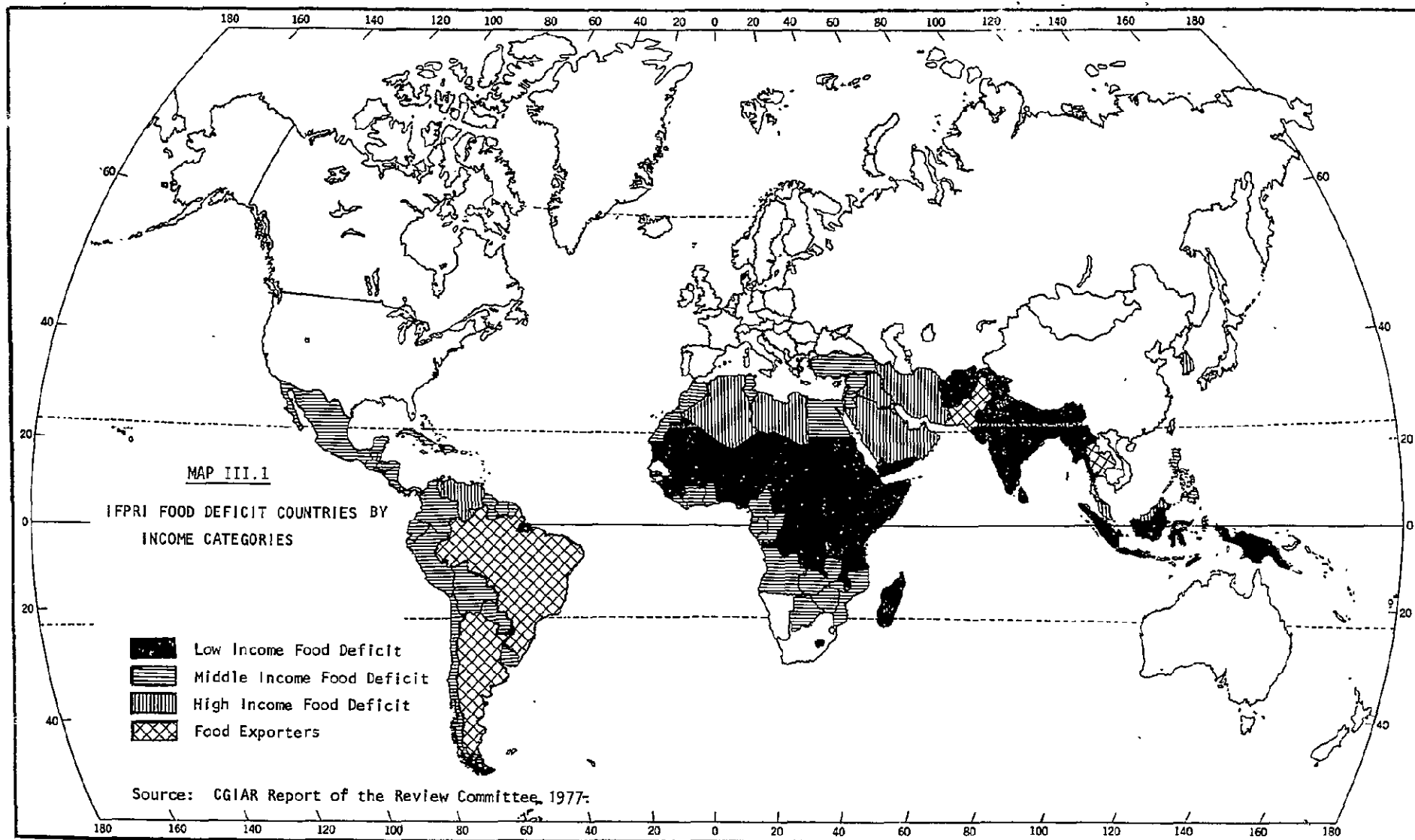
\* In Figures III.1-7, numbers beside points refer to the 20 strata. In Figure III.8 numbers refer to the original 62 countries (see List, pp. 112, 113).

\*Hayami, Y. and V. W. Ruttan. Agricultural Development : An International Perspective (The John Hopkins Press : Baltimore, 1971).

The relation between this "elasticity" and the level of per capita potato consumption 1961/65 is shown in Figure and equation 7.

Three equations were estimated which included both GNP per capita and hectares cropland per capita as independent variables, and the following dependent variables : potato yields, kg. fertilizer per hectare, and number of tractors per hectare (equations 8, 9, 10). In each case the coefficient of determination increased substantially above that resulting when only GNP per capita was used as the independent variable.

Finally, an equation was fit to country-level data on potato yields (dependent variable), GNP per capita and cropland per capita, for the 62 countries in the world cultivating over 10,000 hectares of potatoes (including Russia, China and Poland). The coefficient of determination remained relatively high (equation 11).



IFPRI COUNTRY CATEGORIES TO ACCOMPANY MAP III.1

I. LOW INCOME - FOOD DEFICIT COUNTRIES  
(under \$200 per capita)

A. ASIA

Bangladesh  
Bhutan  
Burma  
India  
Indonesia  
Maldiv Islands  
Nepal  
Pacific Islands  
Papua - New Guinea  
Sikkim  
Sri Lanka

B. NORTH AFRICA - MID. EAST

Afghanistan  
Sudan  
Yemen (Aden)  
Yemen (Sana)

C. SUB-SAHARA AFRICA

Burundi  
Central African Rep.  
Chad  
Comoro Islands  
Dahomey  
Ethiopia  
Gambia  
Guinea  
Kenya

C. (Continued...)

Lesotho  
Malagasy Republic  
Malawi  
Mauritania  
Niger  
Nigeria  
Rwanda  
Sierra Leone  
Somalia  
Tanzania  
Togo  
Uganda  
Upper Volta  
Zaire

D. LATIN AMERICA

Haiti

II. MIDDLE INCOME - FOOD DEFICIT COUNTRIES  
(\$200 + per capita)

A. ASIA

Philippines

B. NORTH AFRICA - MID. EAST

Cyprus  
Egypt  
Jordan  
Lebanon  
Morocco  
Syria  
Tunisia  
Turkey

C. SUB-SAHARA AFRICA

Angola  
Cameroon  
Cape Verde Islands  
Ceuta & Melilla  
Congo  
Equatorial Guinea  
French Terr. Afaro & Issas  
Gabon  
Ghana  
Guinea - Bissau  
Ivory Coast  
Liberia  
Mauritius  
Mozambique  
Reunion

IFPRI COUNTRY CATEGORIES TO ACCOMPANY MAP III.1

(Page 2 of 2)

II. C. (Continued...)

Rhodesia  
Sao Tome & Principe  
Senegal  
Seychelles Islands  
Zambia

D. LATIN AMERICA

Bahamas  
Bermuda  
Bolivia  
British Honduras  
Chile  
Colombia  
Costa Rica  
Cuba  
Dominican Republic  
Ecuador  
El Salvador  
French Guiana  
Guatemala  
Guyana  
Honduras  
Jamaica  
Mexico  
Nicaragua  
Other Carib. Isles (Martinique, etc.)  
Panama  
Paraguay  
Peru  
Surinam  
Trinidad & Tobago  
Uruguay

III. HIGH INCOME - FOOD DEFICIT COUNTRIES  
(high foreign exchange capacity)

A. ASIA

Brunei  
Hong Kong  
Macao  
Malaysia  
Singapore  
South Korea  
Taiwan

B. NORTH AFRICA - MIDDLE EAST

Algeria  
Bahrain  
Iran  
Iraq  
Kuwait  
Libyan Arab Republic  
Oman  
Qatar  
Saudi Arabia  
United Arab Emirates

C. LATIN AMERICA

Venezuela

IV. GRAIN EXPORTERS

Argentina  
Brazil  
Pakistan  
Thailand



## LIST OF COUNTRIES TO ACCOMPANY FIGURES III.1-7

(Page 1 of 2)

STRATUM	COUNTRY	CIP REGION	STRATUM	COUNTRY	CIP REGION
I	1. USA		XI	23. Spain	
II	2. Switzerland			24. Argentina	I
	3. Sweden		XII	25. Venezuela	I
	4. Canada			26. Bulgaria	
III	5. Germany Fed.			27. Portugal	
				28. South Africa	
IV	6. Denmark		XIII	29. Yugoslavia	
	7. Norway			30. Uruguay	I
	8. Belgium			31. Mexico	II
	9. France		XIV	32. Iran	V
V	10. Australia			33. Brazil	I
	11. Netherlands			34. Chile	I
	12. Japan				
	13. Finland		XV	35. Peru	I
	14. Libyan Arab Rep.	IV		36. Turkey	IV
VI	15. Austria		XVI	37. Algeria	IV
	16. United Kingdom			38. Cuba	II
VII	17. German DR			39. Albania	
				40. Colombia	I
VIII	18. Czechoslovakia			41. Korea Rep.	VII
				42. Ecuador	I
IX	19. Italy				
X	20. Ireland				
	21. Greece				
	22. Hungary				

## LIST OF COUNTRIES TO ACCOMPANY FIGURES III.1-7

(Page 2 of 2)

STRATUM	COUNTRY	CIP REGION
XVII	43. Korea DPR	
	44. Morocco	IV
	45. Egypt	IV
	46. Cameroon	III
XVIII	47. Bolivia	I
	48. Kenya	III
	49. Madagascar	III
	50. Zaire	III
	51. Tanzania	III
	52. Indonesia	VII
XIX	53. India	VI
XX	54. Pakistan	V
	55. Nepal	VI
	56. Ethiopia	III
	57. Bangladesh	VI
	58. Burundi	III
	59. Rwanda	III
	60. Poland	
	61. USSR	
	62. China	

Figure III.1 : POTATO YIELD AS A FUNCTION OF GNP PER CAPITA- 20 STRATA

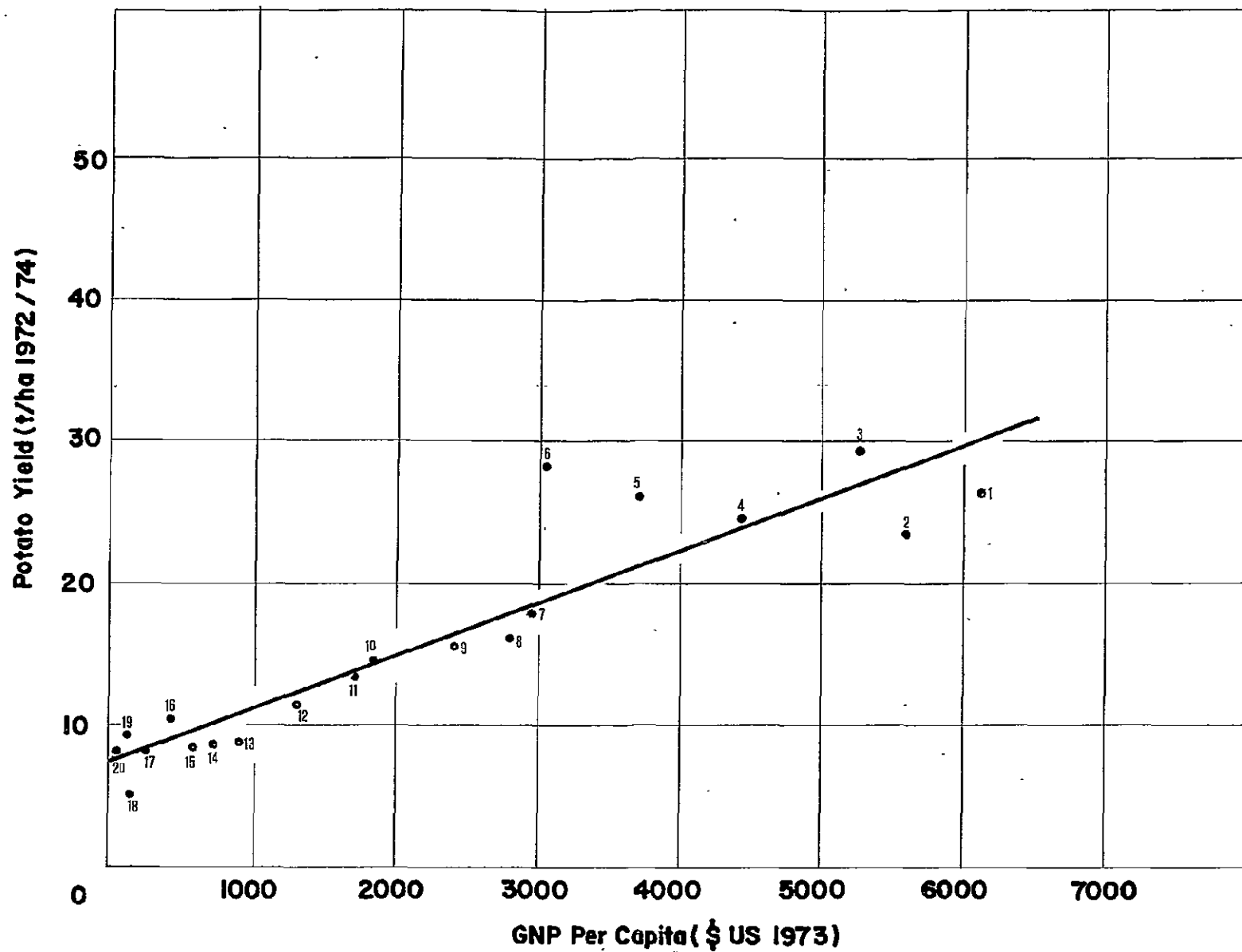


Figure III.2 : NUMBER OF TRACTORS PER 1,000 HA AS A FUNCTION OF GNP  
PER CAPITA-20 STRATA

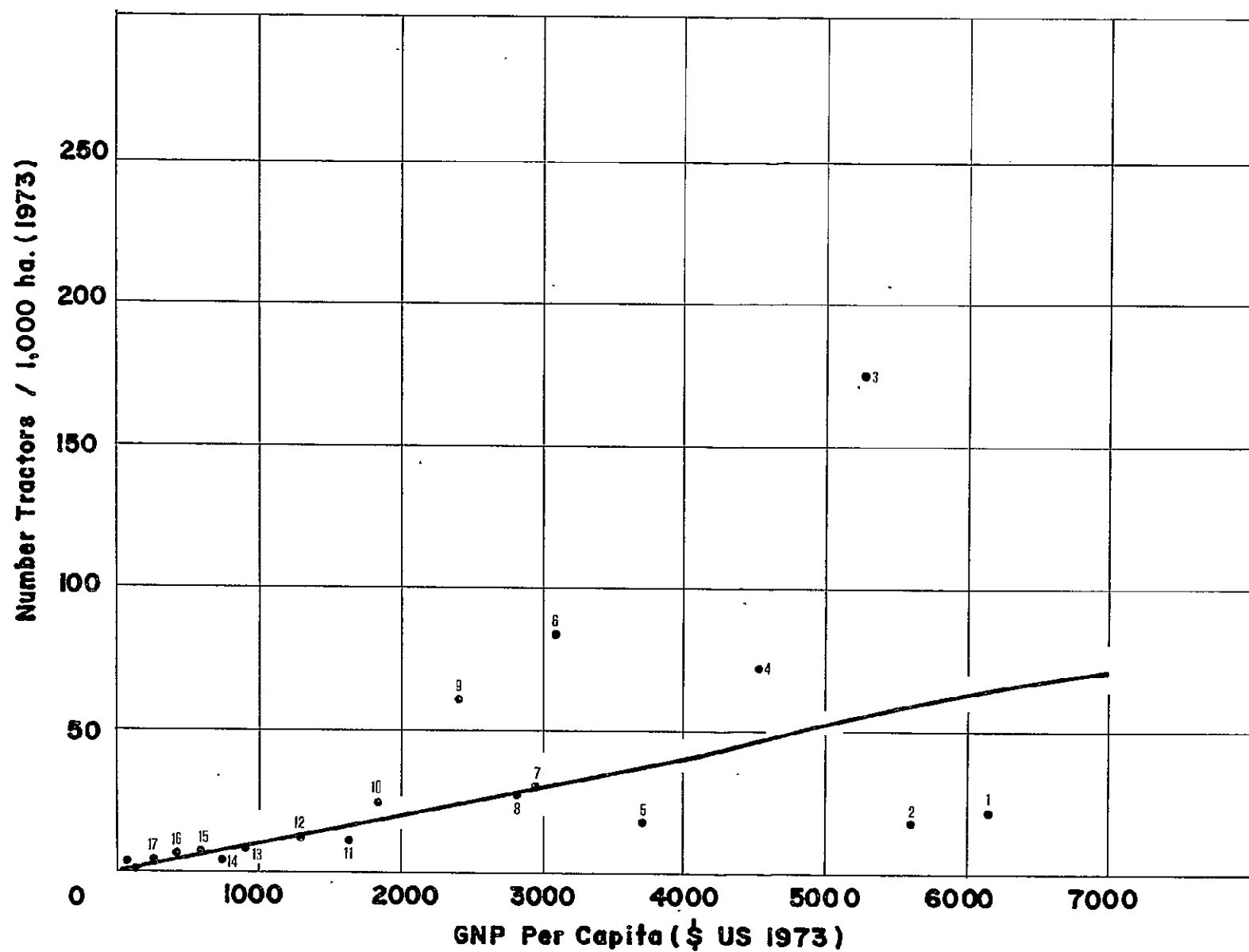


Figure III.3: KG FERTILIZER USED AS A FUNCTION OF GNP PER CAPITA - 20 STRATA

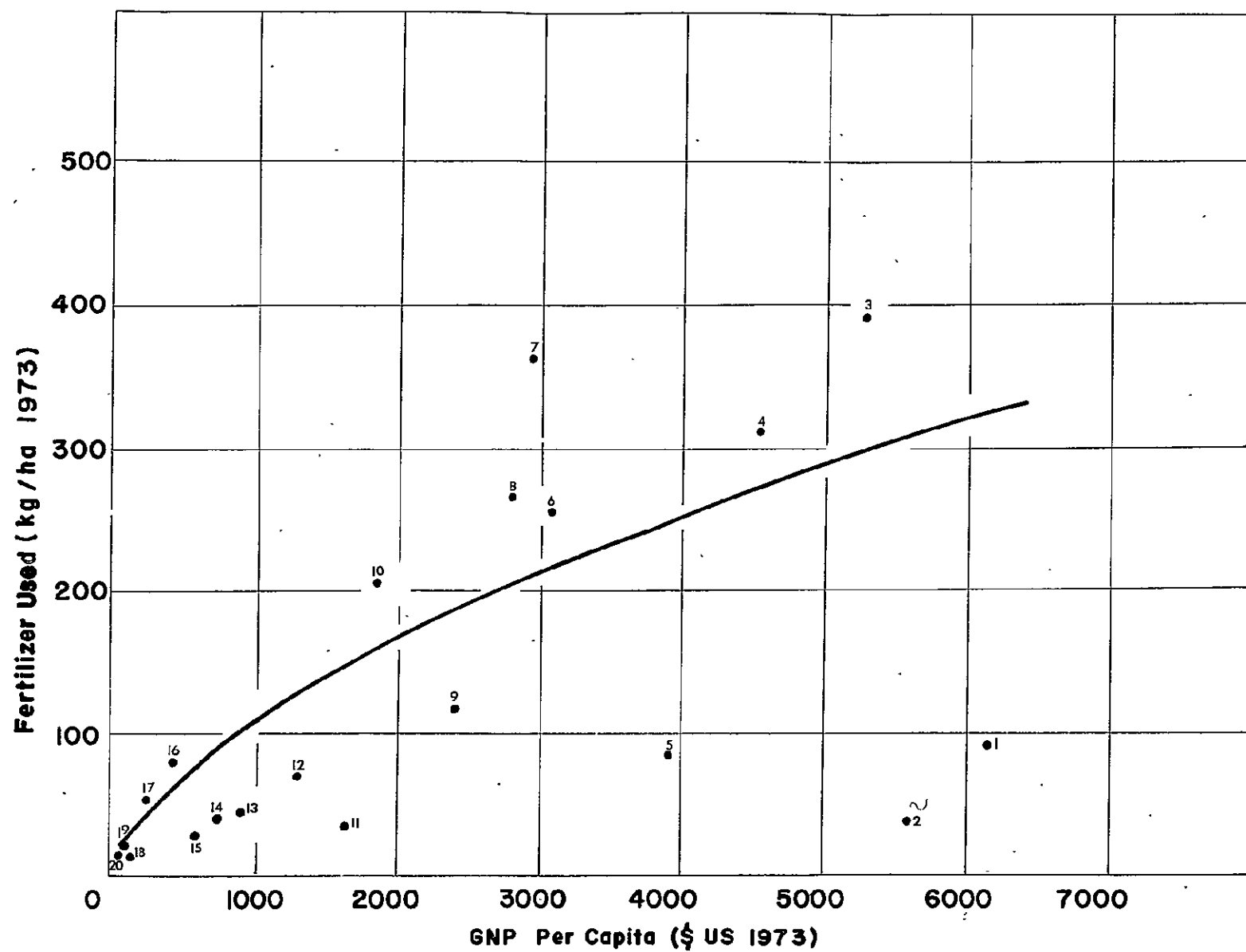


Figure III.4: POTATO CONSUMPTION PER CAPITA AS A FUNCTION OF GNP PER CAPITA—  
20 STRATA

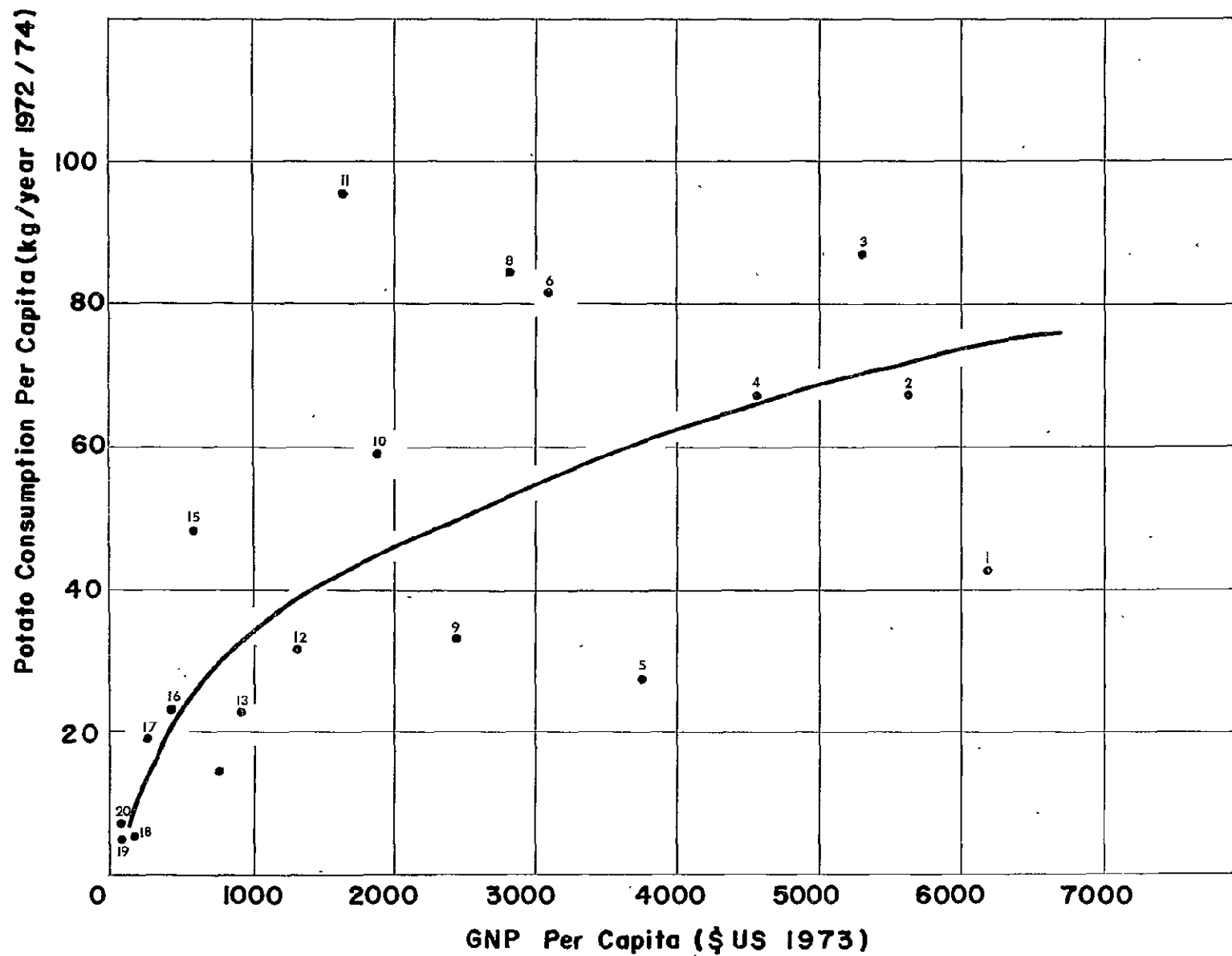


Figure III 5: PER CENT POTATOES PROCESSED AS A FUNCTION OF GNP PER CAPITA -  
20 STRATA

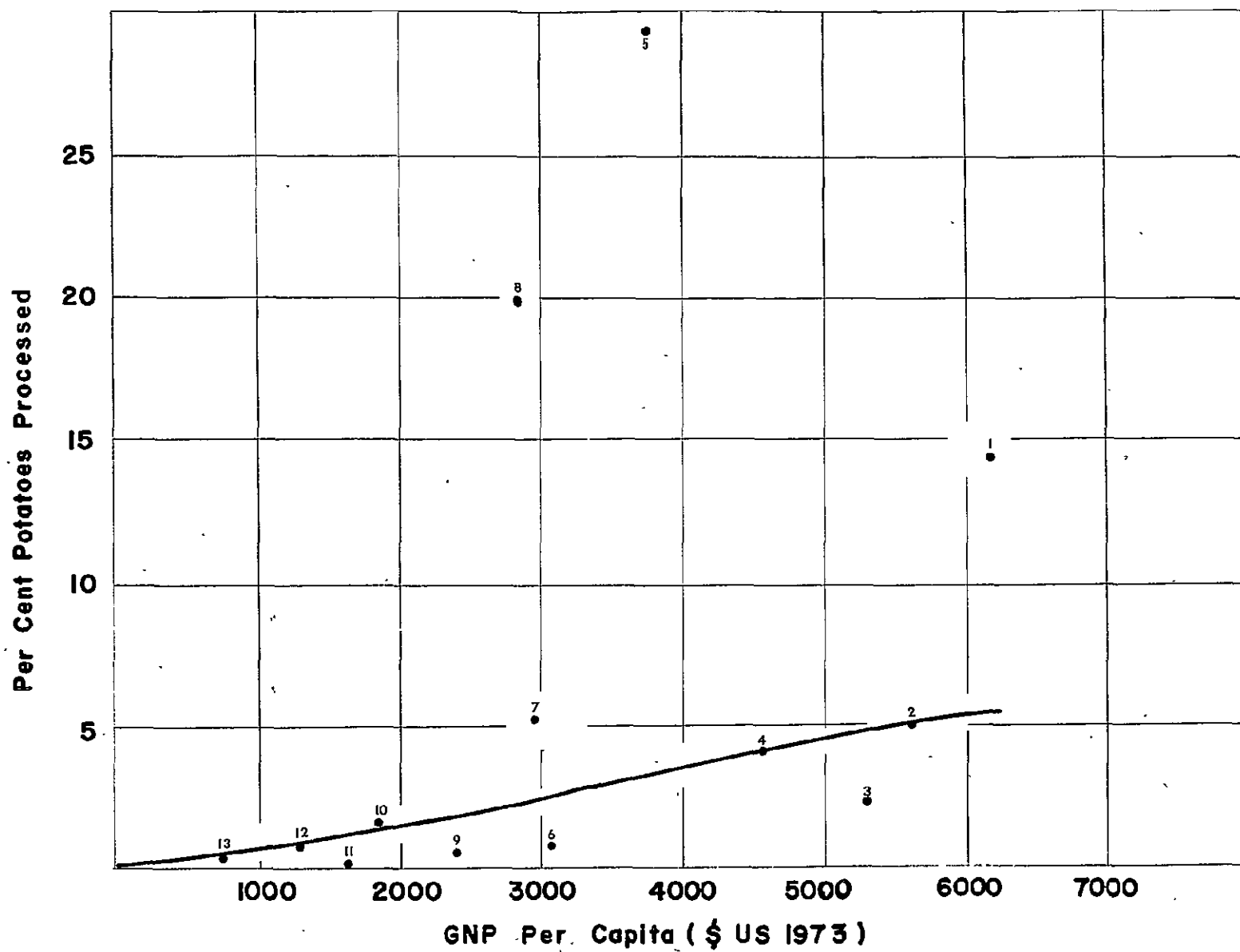


Figure III.6 : ANNUAL AVERAGE PER CENT CHANGE POTATO PRODUCTION AS A FUNCTION OF POTATO CONSUMPTION - 20 STRATA

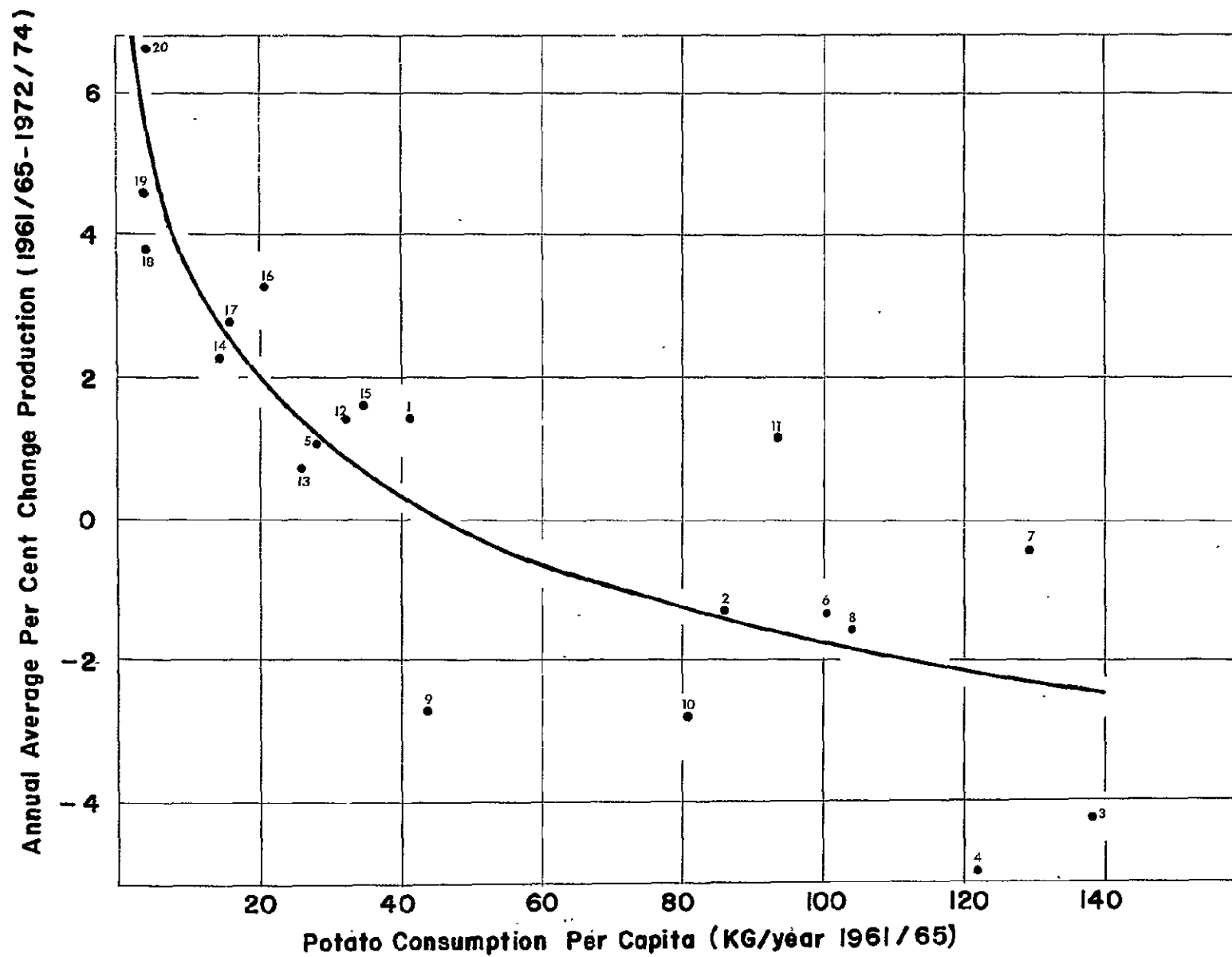




Figure III. 7 : CALCULATED INCOME ELASTICITY OF DEMAND FOR POTATOES AS A  
FUNCTION OF POTATO CONSUMPTION - 20 STRATA

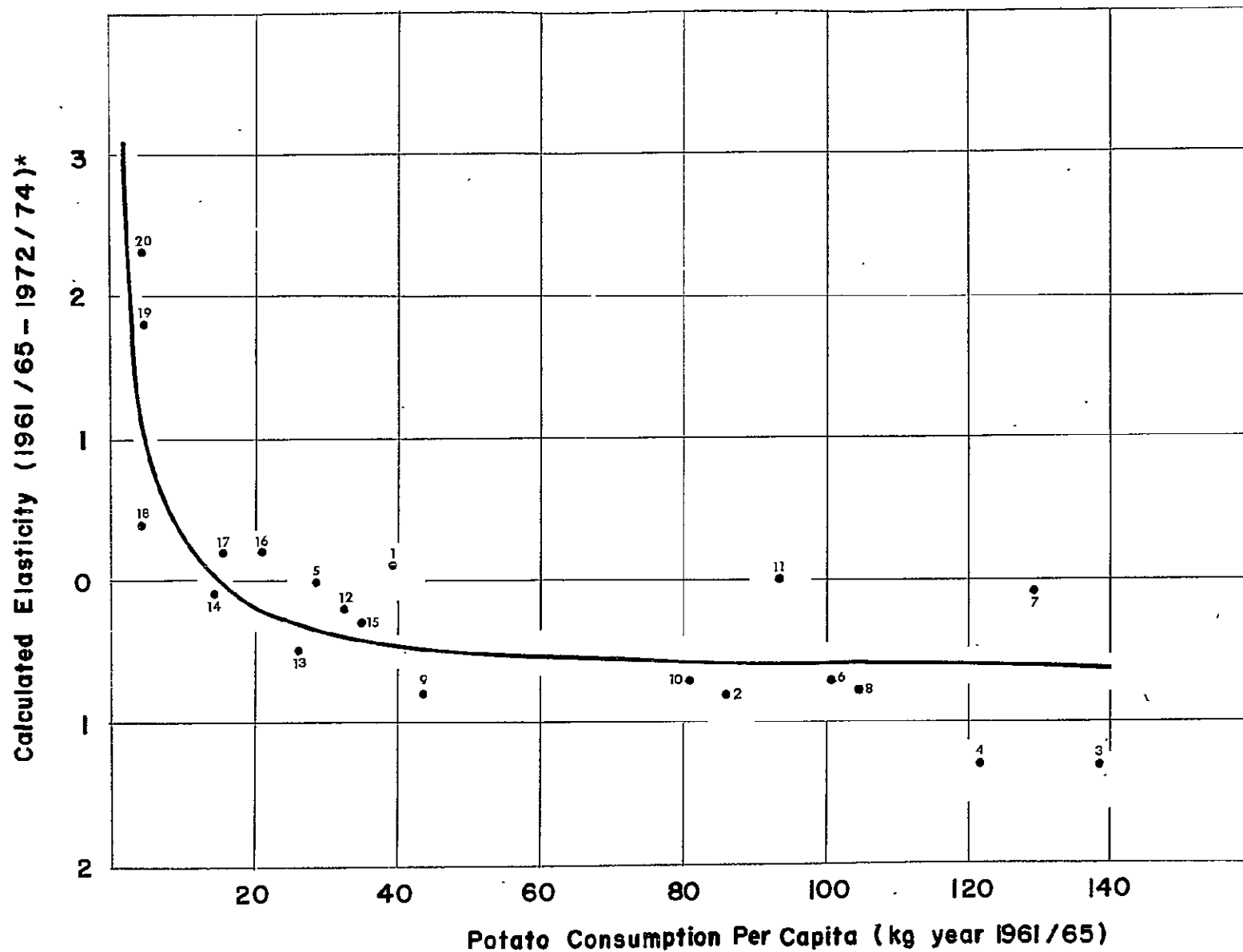


Figure III.8: REPORTED POTATO YIELD IN RELATION TO EXPECTED YIELD 62  
COUNTRIES CULTIVATING OVER 10,000 HA. POTATOES

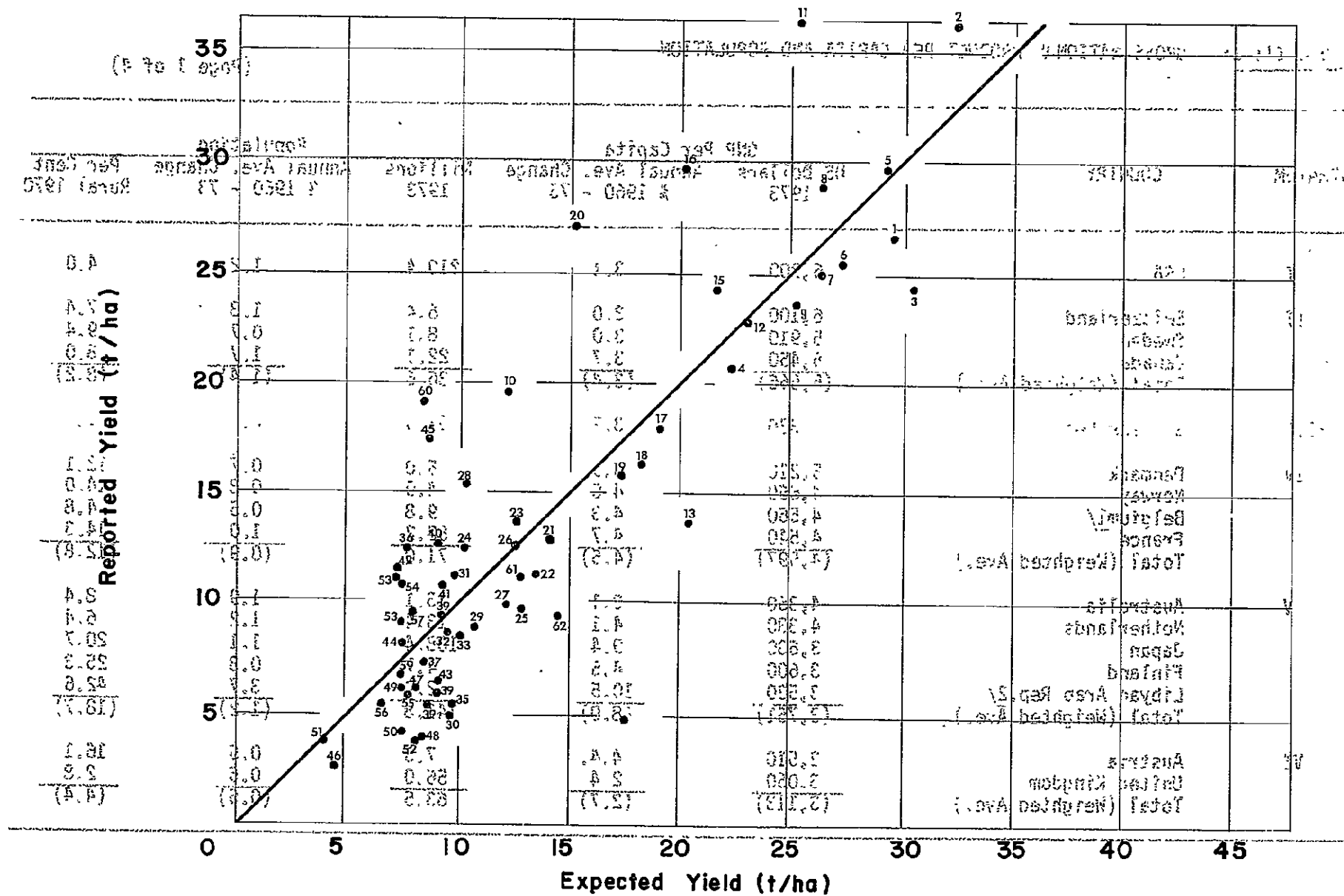


Table III.1: GROSS NATIONAL PRODUCT PER CAPITA AND POPULATION

(Page 1 of 4)

STRATUM	COUNTRY	GNP Per Capita		Population		
		US Dollars 1973	Annual Ave. Change % 1960 - 73	Millions 1973	Annual Ave. Change % 1960 - 73	Per Cent Rural 1970
I	USA	6,200	3.1	210.4	1.2	4.0
II	Switzerland	6,100	3.0	6.4	1.3	7.4
	Sweden	5,910	3.0	8.1	0.7	9.4
	Canada	5,450	3.7	22.1	1.7	8.0
	Total (Weighted Ave.)	(5,666)	(3.4)	36.6	(1.4)	(8.2)
III	Germany Fed.	5,320	3.7	62.0	0.9	9.3
IV	Denmark	5,210	3.9	5.0	0.7	12.1
	Norway	4,660	4.0	4.0	0.8	14.0
	Belgium <sup>1/</sup>	4,560	4.3	9.8	0.5	4.8
	France	4,540	4.7	52.2	1.0	14.3
	Total (Weighted Ave.)	(4,597)	(4.5)	71.0	(0.9)	(12.8)
V	Australia	4,350	3.1	13.1	1.9	8.4
	Netherlands	4,330	4.1	13.4	1.2	6.4
	Japan	3,630	9.4	108.4	1.1	20.7
	Finland	3,600	4.5	4.7	0.3	25.3
	Libyan Arab Rep. <sup>2/</sup>	3,530	10.5	2.2	3.7	42.6
	Total (Weighted Ave.)	(3,761)	(8.0)	141.8	(1.2)	(18.7)
VI	Austria	3,510	4.4	7.5	0.5	16.1
	United Kingdom	3,060	2.4	56.0	0.5	2.8
	Total (Weighted Ave.)	(3,113)	(2.7)	63.5	(0.5)	(4.4)

Table III.1: GROSS NATIONAL PRODUCT PER CAPITA AND POPULATION

(Page 2 of 4)

STRATUM	COUNTRY	GNP Per Capita		Population		
		US Dollars 1973	Annual Ave. Change % 1960 - 73	Millions 1973	Annual Ave. Change % 1960 - 73	Per Cent Rural 1970
VII	German DR <sup>3/</sup>	3,000	3.2	17.0	-0.1	12.4
VIII	Czechoslovakia <sup>3/</sup>	2,870	2.4	14.6	0.5	15.5
IX	Italy	2,450	4.3	54.9	0.7	21.1
X	Ireland	2,150	3.6	3.0	0.5	26.9
	Greece	1,870	7.3	8.9	0.5	46.5
	Hungary <sup>3/</sup>	1,850	3.2	10.4	0.3	25.4
	Total (Weighted Ave.)	(1,899)	(4.9)	22.3	(0.4)	(34.0)
XI	Spain	1,710	5.8	34.7	1.1	33.7
	Argentina	1,640	2.7	24.3	1.5	15.2
	Total (Weighted Ave.)	(1,681)	(4.6)	59.0	(1.3)	(26.1)
XII	Venezuela	1,630	2.0	11.3	3.4	26.2
	Bulgaria <sup>3/</sup>	1,590	4.7	8.6	0.7	42.2
	Portugal	1,410	7.4	9.0	0.0	36.6
	South Africa <sup>4/</sup>	1,050	2.7	24.3	3.1	29.7
	Total (Weighted Ave.)	(1,322)	(3.8)	53.2	(2.3)	(32.2)
XIII	Yugoslavia	1,010	4.3	21.0	1.0	53.4
	Uruguay	950	-0.2	3.0	1.3	16.7
	Mexico	890	3.3	56.0	3.5	46.6
	Total (Weighted Ave.)	(924)	(3.5)	80.0	(2.8)	(47.3)

Table III.1: GROSS NATIONAL PRODUCT PER CAPITA AND POPULATION

(Page 3 of 4)

STRATUM	COUNTRY	GNP Per Capita		Population		
		US Dollars 1973	Annual Ave. Change % 1960 - 73	Millions 1973	Annual Ave. Change % 1960 - 73	Per Cent Rural 1970
XIV	Iran	870	6.4	32.1	3.2	46.3
	Brazil	760	3.6	101.1	2.9	43.7
	Chile	720	1.7	10.2	2.2	25.4
	Total (Weighted Ave.)	(782)	(4.2)	143.4	(2.9)	(43.0)
XV	Peru	620	2.1	14.5	2.9	45.6
	Turkey	600	3.9	37.9	2.5	69.1
	Total (Weighted Ave.)	(606)	(3.4)	52.4	(2.6)	(62.6)
XVI	Algeria	570	1.7	14.7	3.2	55.7
	Cuba <sup>3/</sup>	540	-1.0	8.9	2.0	32.8
	Albania <sup>3/</sup>	460	4.4	2.3	2.8	62.0
	Colombia	440	2.4	22.5	2.9	45.2
	Korea Rep.	400	7.1	32.9	2.2	58.0
	Ecuador	380	1.9	6.8	3.4	53.6
	Total (Weighted Ave.)	(453)	(3.4)	88.1	(2.6)	(51.6)
XVII	Korea DPR <sup>3/</sup>	340	4.6	15.0	2.8	53.2
	Morocco	320	1.6	15.9	2.4	60.6
	Egypt	250	1.5	35.6	2.5	54.8
	Cameroon	250	3.2	6.2	2.0	81.8
	Total (Weighted Ave.)	(284)	(2.4)	72.7	(2.5)	(58.0)
XVIII	Bolivia	230	2.5	5.3	2.6	58.3
	Kenya	170	3.1	12.5	3.2	80.4
	Madagascar	150	0.3	8.3	2.7	86.5
	Zaire	140	2.6	23.4	2.7	78.3
	Tanzania <sup>5/</sup>	130	2.8	14.0	2.9	85.9
	Indonesia	130	2.4	124.4	2.0	70.0
	Total (Weighted Ave.)	(138)	(2.4)	187.9	(2.3)	(73.2)

Table III.1: GROSS NATIONAL PRODUCT PER CAPITA AND POPULATION

STRATUM	COUNTRY	GNP Per Capita		Population		
		US Dollars 1973	Annual Ave. Change % 1960 - 73	Millions 1973	Annual Ave. Change % 1960 - 73	Per Cent Rural 1970
XIX	India	120	1.3	581.9	2.3	67.7
XX	Pakistan	120	3.4	66.2	2.9	70.5
	Nepal	90	0.4	12.0	1.9	91.6
	Ethiopia	90	2.4	26.6	2.2	84.6
	Bangladesh	80	-0.2	74.0	2.6	70.5
	Burundi 3/	80	1.3	3.6	2.0	85.6
	Rwanda 3/	70	0.3	4.0	3.4	90.8
	Total (Weighted Ave.)	(96)	(1.8)	186.4	(2.6)	(74.6)
	Poland 3/	2,090	3.9	33.4	0.9	38.4
	USSR 3/	2,030	3.6	249.8	1.1	31.9
	China 3/	270	3.8	811.4	1.7	66.5

Sources : World Bank Atlas: Population, Per Capita Product and Growth Rates (Washington, D.C., 1975).  
FAO Production Yearbook, 1974 (Rome, 1975).

Table III.2: AVAILABILITY OF CROPLAND, FERTILIZERS AND TRACTORS

(Page 1 of 4)

STRATUM	COUNTRY	Cropland million hectares	Fert. Consumpt. thousand tons 1973	Tractors, thousands 1973	Kg. Fert. Per hectares	Tractors Per thousand	Hectares Cropland Per Capita
I	USA	191.1	17,490.5	4,376.0	91.5	22.9	0.9
II	Switzerland	0.4	147.8	77.5	369.6	201.3	0.1
	Sweden	3.0	568.0	169.0F	189.3	55.8	0.4
	Canada	43.8	1,183.0	615.8	27.0	14.1	2.0
	Total (Weighted Ave.)	47.2	1,898.8	862.3	(40.2)	(18.3)	(1.3)
III	Germany Fed.	8.1	3,180.9	1,418.1	393.0	175.2	0.1
IV	Denmark	2.7	736.0*	178.8	276.1	67.1	0.5
	Norway	0.8	207.5	100.1	261.0	125.9	0.2
	Belgium	0.8	523.8	92.5	623.6	110.1	0.1
	France	19.1	5,804.4	1,321.0	304.3	69.2	0.4
	Total (Weighted Ave.)	23.4	7,271.7	1,692.4	(311.1)	(72.3)	(0.3)
V	Australia	44.8	1,450.9*	340.0	32.4	7.6	3.4
	Netherlands	0.8	617.7	170.8F	734.5	203.1	0.1
	Japan	5.3	2,298.8	283.0	434.1	53.4	0.0
	Finland	2.7	563.0	170.0	207.1	62.5	0.6
	Libyan Arab Rep.	2.5	14.2*	4.0F	5.6	1.6	1.2
	Total (Weighted Ave.)	56.1	4,944.6	967.8	(88.1)	(17.2)	(0.4)
VI	Austria	1.7	406.9	277.6	241.9	165.1	0.2
	United Kingdom	7.2	1,850.4*	465.0F	256.2	64.4	0.1
	Total (Weighted Ave.)	8.9	2,257.3	742.6	(253.5)	(83.4)	(0.1)
VII	German DR	4.8	1,755.0	143.3	362.4	29.6	0.3

Table III.2: AVAILABILITY OF CROPLAND, FERTILIZERS AND TRACTORS

(Page 2 of 4)

STRATUM	COUNTRY	Cropland million .. hectares <u>1/</u>	Fert. Consumpt. thousand tons 1973	Tractors, thousands 1973	Kg. Fert. Per hectares	Tractors Per thousand	Hectares Cropland Per Capita
VIII	Czechoslovakia	5.3	1,416.9*	141.0	266.2	26.5	0.4
IX	Italy	12.3	1,411.8	742.8	115.0	60.3	0.2
X	Ireland	1.2*	501.2	96.1F	435.4	83.5	0.4
	Greece	3.6	394.9*	73.0F	108.8	20.1	0.4
	Hungary	5.6	1,202.2	63.5	216.0	11.4	0.5
	Total (Weighted Ave.)	<u>10.4</u>	<u>2,098.3</u>	<u>232.6</u>	<u>(202.8)</u>	<u>(22.5)</u>	<u>(0.5)</u>
XI	Spain	21.2	1,462.0	330.5	69.1	15.6	0.6
	Argentina	26.0	95.6*	180.0	3.7	6.9	1.1
	Total (Weighted Ave.)	<u>47.2</u>	<u>1,557.6</u>	<u>510.5</u>	<u>(33.0)</u>	<u>(10.8)</u>	<u>(0.8)</u>
XII	Venezuela	5.2	85.1	21.3*	16.3	4.1	0.5
	Bulgaria	4.5	632.9	75.0F	140.3	16.6	0.5
	Portugal	3.9	247.9*	37.0F	64.0	9.5	0.4
	South Africa	12.1	684.3*	169.0	56.8	14.0	0.5
	Total (Weighted Ave.)	<u>25.7</u>	<u>1,650.2</u>	<u>302.3</u>	<u>(64.3)</u>	<u>(11.8)</u>	<u>(0.5)</u>
XIII	Yugoslavia	8.1	735.0*	135.3F	90.4	16.6	0.4
	Uruguay	1.9	48.1*	27.7F	26.0	15.0	0.6
	Mexico	27.5	747.5	130.0F	27.2	4.7	0.5
	Total (Weighted Ave.)	<u>37.5</u>	<u>1,530.6</u>	<u>293.0</u>	<u>(40.9)</u>	<u>(7.8)</u>	<u>(0.5)</u>



Table III.2: AVAILABILITY OF CROPLAND, FERTILIZERS AND TRACTORS

(Page 3 of 4)

STRATUM	COUNTRY	Cropland million hectares	Fert. Consumpt. thousand tons 1973	Tractors, thousands 1973	Kg. Fert. Per hectares	Tractors Per thousand	Hectares Cropland Per Capita
XIV	Iran	16.2	291.7	24.2F	18.1	1.5	0.5
	Brazil	34.1	1,673.2*	184.5F	49.1	5.4	0.3
	Chile	4.6	188.7	27.0F	40.7	5.8	0.5
	Total (Weighted Ave.)	54.9	2,153.6	235.7	(39.3)	(4.3)	(0.4)
XV	Peru	2.9	97.6	12.5F	34.0	4.4	0.2
	Turkey	27.6	722.6*	155.2*	26.2	5.6	0.7
	Total (Weighted Ave.)	30.5	820.2	167.7	(26.9)	(5.5)	(0.6)
XVI	Algeria	6.8	215.8*	32.6F	31.8	4.8	0.5
	Cuba	3.6	277.3	53.5	77.9	15.0	0.4
	Albania	0.6	58.1*	6.6F	104.5	11.9	0.2
	Colombia	5.1	312.0*	30.2F	61.7	6.0	0.2
	Korea Rep.	2.3	757.1	0.2	327.6	0.1	0.1
	Ecuador	3.8	52.4*	3.4F	13.7	0.9	0.6
	Total (Weighted Ave.)	22.2	1,672.7	126.5	(75.7)	(5.7)	(0.3)
XVII	Korea DPR	1.9	396.6*	23.0F	209.4	12.1	0.1
	Morocco	7.5	137.0*	15.0F	18.3	2.0	0.5
	Egypt	2.9	458.0*	18.5F	160.6	6.5	0.1
	Cameroon	7.3	16.2	0.1F	2.2	0.0	1.2
	Total (Weighted Ave.)	19.6	1,007.8	56.6	(51.5)	(2.9)	(0.3)

Table III.2: AVAILABILITY OF CROPLAND, FERTILIZERS AND TRACTORS

(Page 4 of 4)

STRATUM	COUNTRY	Cropland million hectares	Fert. Consumpt. thousand tons 1973	Tractors, thousands 1973	Kg. Fert. Per hectares	Tractors Per thousand	Hectares Cropland Per Capita
XVIII	Bolivia	1.4	8.1*	0.7	5.6	0.5	0.2
	Kenya	1.7	43.6	5.7	26.1	3.4	0.1
	Madagascar	2.9	13.1*	2.5F	4.6	0.9	0.3
	Zaire	7.2*	6.6*	1.2F	0.9	0.2	0.3
	Tanzania	16.3	19.5	6.9F	1.2	0.4	1.2
	Indonesia	18.1	475.3*	9.7F	26.3	0.5	0.1
	Total (Weighted Ave.)	47.6	566.2	26.7	(11.9)	(0.6)	(0.3)
XIX	India	165.7	2,783.0	185.0*	16.8	1.1	0.3
XX	Pakistan	19.2	402.7	30.2	20.9	1.6	0.3
	Nepal	2.0	14.0	0.4F	7.1	0.2	0.2
	Ethiopia	13.3	19.3	3.4F	1.5	0.3	0.5
	Bangladesh	9.1	176.9	2.2F	19.5	0.2	0.1
	Burundi	1.2	1.1	s.n.	1.0	0.0	0.3
	Rwanda	0.8	1.1	s.nF	1.4	0.0	0.2
	Total (Weighted Ave.)	45.6	615.1	36.2	(13.5)	(0.8)	(0.2)
	Poland	15.1	3,329.7	319.2	220.4	21.1	0.5
	USSR	232.1	12,560.0	2,180.0	54.1	9.4	0.9
	China	127.0*	5,732.5*	170.0	45.1	1.3	0.2

Sources: FAO Production Yearbook, 1973 (Rome, 1974). FAO Annual Fertilizer Review, 1974 (Rome, 1975).

1/ Cropland = arable land plus land under permanent crops, as reported by FAO. These figures correspond to the most recent year available for each country.

Table III.3: POTATO PRODUCTION AND CONSUMPTION, AVERAGES 1972/74

(Page 1 of 4)

STRATUM	COUNTRY	Area thousand hectares	Production thousand tons	Yield t/ha	Per Capita Production kg/yr	Fresh Potato Consumption	
						thousand tons	Per Capita kg/yr
I	USA	532	14,149	26.6	67.2	9,013	43
II	Switzerland	26	940	36.2	146.2	291	45
	Sweden	45	1,083	24.1	133.0	473	58
	Canada	107	2,202	20.6	99.5	1,706	77
	Total (Weighted Ave.)	178	4,225	(23.7)	(115.1)	2,470	(67)
III	Germany Fed.	485	14,420	29.7	232.7	5,385	87
IV	Denmark	31	785	25.3	156.4	335	67
	Norway	29	718	24.8	181.3	234	59
	Belgium <sup>1</sup> /	45	1,304 <sup>F</sup>	29.0	133.6	919	94
	France	317	7,484	23.6	143.5	3,307	63
	Total (Weighted Ave.)	422	10,291	(24.4)	(145.1)	4,795	(68)
V	Australia	37	727	19.6	55.4	628	48
	Netherlands	155	5,649	36.4	420.6	1,583	118
	Japan	141	3,221	22.8	29.7	1,344	12
	Finland	47	637	13.6	136.7	281	60
	Libyan Arab Rep.	15 <sup>F</sup>	69 <sup>F</sup>	4.6	31.9	55	25
	Total (Weighted Ave.)	395	10,303	(26.1)	(72.7)	3,891	(27)
VI	Austria	89	2,151	24.2	285.7	399	53
	United Kingdom	225	6,676	29.7	119.2	4,769	85
	Total (Weighted Ave.)	314	8,827	(28.1)	(138.9)	5,168	(81)
VII	German DR	649 <sup>F</sup>	11,647 <sup>F</sup>	17.9	685.9	2,135	126

Table III.3: POTATO PRODUCTION AND CONSUMPTION, AVERAGES 1972/74

(Page 2 of 4)

STRATUM	COUNTRY	Area thousand hectares	Production thousand tons	Yield t/ha	Per Capita Production kg/yr	Fresh Potato Consumption thousand tons	Per Capita kg/yr
VIII	Czechoslovakia	301	4,848F	16.1	332.7	1,228	84
IX	Italy	185	2,931	15.8	53.4	1,821	33
X	Ireland	44	1,187F	27.0	391.7	286	95
	Greece	55	710F	12.9	79.5	491	55
	Hungary	122*	1,368*	11.2	131.2	573	55
	Total (Weighted Ave.)	<u>221</u>	<u>3,265</u>	<u>(14.8)</u>	<u>(145.8)</u>	<u>1,350</u>	<u>(61)</u>
XI	Spain	401	5,453	13.6	157.0	4,252	123
	Argentina	125	1,558	12.5	64.2	1,428	59
	Total (Weighted Ave.)	<u>526</u>	<u>7,011</u>	<u>(13.3)</u>	<u>(118.8)</u>	<u>5,680</u>	<u>(96)</u>
XII	Venezuela	12	119	9.9	10.6	99	9
	Bulgaria	28	355	12.7	41.2	176	20
	Portugal	112	1,114	9.9	123.9	939	104
	South Africa	41	624	15.2	25.7	440	18
	Total (Weighted Ave.)	<u>193</u>	<u>2,212</u>	<u>(11.5)</u>	<u>(41.6)</u>	<u>1,654</u>	<u>(31)</u>
XIII	Yugoslavia	318	2,836	8.9	135.3	1,245	59
	Uruguay	25	123	4.9	41.1	107	36
	Mexico	40	454	11.3	8.1	375	7
	Total (Weighted Ave.)	<u>383</u>	<u>3,413</u>	<u>(8.9)</u>	<u>(42.7)</u>	<u>1,727</u>	<u>(22)</u>

Table III.3: POTATO PRODUCTION AND CONSUMPTION, AVERAGES 1972/74

(Page 3 of 4)

STRATUM	COUNTRY	Area thousand hectares	Production thousand tons	Yield t/ha	Per Capita Production kg/yr	Fresh Potato thousand tons	Consumption Per Capita kg/yr
XIV	Iran	53	467	8.8	14.5	377	12
	Brazil	193	1,649	8.5	16.3	1,027	10
	Chile	83	771	9.3	75.4	579	57
	Total (Weighted Ave.)	329	2,887	(8.8)	(20.1)	1,983	(14)
XV	Peru	251	1,381	5.5	95.0	882	61
	Turkey	178	2,200	12.4	58.0	1,640	43
	Total (Weighted Ave.)	429	3,581	(8.3)	(68.3)	2,522	(48)
XVI	Algeria	46	337	7.3	22.9	301	20
	Cuba	14	74	5.3	8.3	95	11
	Albania	16	95	5.9	41.4	75	33
	Colombia	88	1,108	12.6	49.2	787	35
	Korea Rep.	43	466	10.8	14.2	372	11
	Ecuador	43	484	11.4	71.3	366	54
	Total (Weighted Ave.)	250	2,564	(10.3)	(29.1)	1,996	(23)
XVII	Korea DPR	167	1,063F	6.4	70.7	798	53
	Morocco	28	231F	8.3	14.5	112	7
	Egypt	41	715F	17.4	20.1	461	13
	Cameroon	15	39F	2.6	6.3	31	5
	Total (Weighted Ave.)	251	2,048	(8.2)	(28.1)	1,402	(19)

Table III.3: POTATO PRODUCTION AND CONSUMPTION, AVERAGES 1972/74

(Page 4 of 4)

STRATUM	COUNTRY	Area thousand hectares	Production thousand tons	Yield t/ha	Per Capita Production kg/yr	Fresh Potato Consumption	
						thousand tons	Per Capita kg/yr
XVIII	Bolivia	118	727	6.2	136.4	503	95
	Kenya	55	213F	3.9	17.1	120	10
	Madagascar	21	125F	6.0	15.1	104	13
	Zaire	10	43	4.3	1.8	34	1
	Tanzania	27	101F	3.7	7.2	81	6
	Indonesia	35	131F	3.7	1.1	99	1
	Total (Weighted Ave.)	266	1,340	(5.0)	(7.1)	941	(5)
XIX	India	510	4,634	9.1	8.0	3,080	5
XX	Pakistan	23	245	10.7	3.7	184	3
	Nepal	51	296	5.8	24.6	185	15
	Ethiopia	32	170F	5.3	6.4	130	5
	Bangladesh	78	748	9.6	10.1	478	6
	Burundi	20	219F	11.0	61.2	172	48
	Rwanda	19	130F	6.8	32.7	77	19
	Total (Weighted Ave.)	223	1,808	(8.1)	(9.7)	1,226	(7)
	Poland	2,668	50,754	19.0	1,521.4	4,472	134
	USSR	7,992	89,077	11.1	356.7	31,587	126
	China	3,765F	35,360F	9.4	43.6	19,743	24

Sources: FAO Production Yearbook, 1974 (Rome, 1975). FAO Food Balance Sheets, 1964-66 (Rome, 1971).

1/ Belgium and Luxembourg, Col. 5.

Table III.4: AVERAGE ANNUAL RATES OF CHANGE OF POTATO PRODUCTION, YIELDS, AND AVAILABILITY OF FERTILIZERS AND TRACTORS  
1961/65 - 1972/74

(per cent per year)

(Page 1 of 4)

STRATUM	COUNTRY	Potato Production Total Per Capita		Potato Yields	Fertilizer Consumption	Number Tractors
I	USA	1.4	0.3	1.7	6.4	-0.8
II	Switzerland	-2.0	-3.0	3.8	2.0	2.5
	Sweden	-3.8	-4.5	1.4	5.3	0.4
	Canada	0.5	-1.1	1.6	8.9	0.8
	Weighted Average	-1.3	-2.6	1.7	7.0	0.9
III	Germany Fed.	-4.2	-4.9	1.9	1.9	3.0
IV	Denmark	-4.4	-5.0	2.0	4.9	2.1
	Norway	-3.8	-4.5	1.8	2.8	4.7
	Belgium	-2.5	-3.0	0.6	2.1	4.8
	France	-5.6	-6.4	3.2	7.5	4.2
	Weighted Average	-5.0	-5.8	2.9	6.5	4.0
V	Australia	2.8	1.0	3.6	5.8	1.9
	Netherlands	4.1	2.9	2.2	1.5	4.9
	Japan	-1.6	-2.7	2.6	2.5	30.9
	Finland	-5.0	-5.3	-0.6	7.1	4.7
	Libyan Arab Rep.	19.1	15.3	1.4	13.2	3.5
	Weighted Average	1.1	0.0	2.7	3.7	6.5
VI	Austria	-3.9	-4.4	1.9	2.9	5.5
	United Kingdom	-0.3	-0.7	2.7	2.4	-0.1
	Weighted Average	-1.3	-1.8	2.6	2.5	1.6

Table III.4: AVERAGE ANNUAL RATES OF CHANGE OF POTATO PRODUCTION, YIELDS, AND AVAILABILITY OF FERTILIZERS AND TRACTORS  
1961/65 - 1972/74

(per cent per year)

(Page 2 of 4)

STRATUM	COUNTRY	Potato Production		Potato Yields	Fertilizer Consumption	Number Tractors
		Total	Per Capita			
VII	German DR	-0.4	-0.3	0.8	4.7	2.8
VIII	Czechoslovakia	-1.5	-1.9	3.4	7.2	2.5
IX	Italy	-2.7	-3.5	4.3	4.3	8.0
X	Ireland	-4.5	-5.1	1.4	8.4	6.3
	Greece	4.3	3.8	4.6	6.3	9.4
	Hungary	-3.7	-4.0	3.6	15.0	1.6
	Weighted Average	-2.8	-3.3	2.9	11.0	5.5
XI	Spain	1.9	0.8	1.8	6.8	11.5
	Argentina	-1.1	-2.1	2.6	14.8	2.6
	Weighted Average	1.2	0.1	2.0	7.2	7.4
XII	Venezuela	0.5	-2.2	2.0	12.7	5.0
	Bulgaria	-1.2	-1.8	2.6	11.0	8.0
	Portugal	0.8	0.9	0.1	4.6	11.0
	South Africa	4.8	1.2	5.6	8.8	2.6
	Weighted Average	1.4	-0.8	2.0	8.9	4.7
XIII	Yugoslavia	0.5	-0.5	0.9	6.6	11.6
	Uruguay	1.2	0.0	0.4	4.5	1.5
	Mexico	2.2	-1.3	3.5	11.2	6.1
	Weighted Average	0.7	-1.9	1.2	8.4	7.6



Table III.4: AVERAGE ANNUAL RATES OF CHANGE OF POTATO PRODUCTION, YIELDS, AND AVAILABILITY OF FERTILIZERS AND TRACTORS  
1961/65 - 1972/74

(per cent per year)

(Page 3 of 4)

STRATUM	COUNTRY	Potato Production		Potato Yields	Fertilizer Consumption	Number Tractors
		Total	Per Capita			
XIV	Iran	3.2	-0.1	1.1	28.2	7.9
	Brazil	3.4	0.5	3.7	22.3	7.5
	Chile	-0.3	-2.3	0.6	7.1	2.5
	Weighted Average	<u>2.3</u>	<u>-0.6</u>	<u>2.5</u>	<u>20.2</u>	<u>6.8</u>
XV	Peru	-0.7	-3.5	-0.5	0.4	5.0
	Turkey	3.4	0.9	1.2	21.8	12.4
	Total (Weighted Ave.)	<u>1.6</u>	<u>-1.0</u>	<u>0.8</u>	<u>15.5</u>	<u>11.6</u>
XVI	Algeria	4.2	1.5	-2.1	15.8	1.7
	Cuba	-1.8	-3.9	-1.1	5.1	10.5
	Albania	13.8	10.8	-1.0	25.0	5.7
	Colombia	4.3	1.4	1.6	9.9	2.2
	Korea Rep.	-0.4	-2.3	1.1	8.5	18.7
	Ecuador	4.4	0.9	2.7	14.1	7.2
	Weighted Average	<u>3.3</u>	<u>0.8</u>	<u>0.9</u>	<u>9.2</u>	<u>5.1</u>
XVII	Korea DPR	1.4	-1.3	0.0	10.3	7.4
	Morocco	1.0	-1.3	-1.8	13.0	6.5
	Egypt	6.1	3.5	0.5	5.1	3.1
	Cameroon	8.7	6.4	-7.5	11.5	5.3
	Weighted Average	<u>2.8</u>	<u>0.4</u>	<u>0.1</u>	<u>7.8</u>	<u>5.6</u>
XVIII	Bolivia	2.9	-0.1	2.4	21.5	12.1
	Kenya	1.0	-2.4	0.3	10.2	-0.6
	Madagascar	3.8	0.1	-1.8	14.6	6.7
	Zaire	8.5	3.3	-3.7	20.4	4.5

Table III.4: AVERAGE ANNUAL RATES OF CHANGE OF POTATO PRODUCTION, YIELDS, AND AVAILABILITY OF FERTILIZERS AND TRACTORS  
1961/65 - 1972/74

(per cent per year)

(Page 4 of 4)

STRATUM	COUNTRY	Potato Production		Potato Yields	Fertilizer Consumption	Number Tractors
		Total	Per Capita			
XVII	Tanzania	18.2	15.5	1.5	17.7	10.3
	Indonesia	7.6	6.2	0.0	14.6	8.9
	Weighted Average	3.8	1.0	0.8	14.4	5.9
XIX	India	4.6	2.3	2.1	16.6	16.7
XX	Pakistan	6.3	3.6	1.9	20.7	16.6
	Nepal	4.4	2.2	2.3	33.2	5.3
	Ethiopia	2.4	0.3	0.6	30.0	23.3
	Bangladesh	7.8	5.3	4.3	16.2	8.2
	Burundi	11.8	10.1	3.2	---	7.2
	Rwanda	7.7	4.5	7.2	---	6.7
	Weighted Average	6.7	4.2	3.6	19.5	16.1
	Poland	1.5	0.7	2.1	12.3	12.6
	USSR	0.9	-0.2	1.7	13.0	4.3
	China	2.7	1.0	1.1	14.4	8.5

Sources: FAO Production Yearbook, 1974 (Rome, 1975). FAO Annual Fertilizer Review, 1974 (Rome, 1975).

Table III.5: REGRESSION RESULTS FOR 20 STRATA AND 62 COUNTRIES

FUNCTION	EQUATION *	R <sup>2</sup>
<u>One Independent Variable, 20 Strata</u>		
1. Potato Yield = f(GNP per capita)	$Y = 7.3770 + 0.0037 x$	0.85
2. No. Tractors per 1,000 Ha. = f(GNP Per Capita)	$\log Y = 5.1365 + 1.0635 \log x$	0.84
3. Kg. Fert. per Ha. = f(GNP Per Capita)	$\log Y = 0.2347 + 0.6361 \log x$	0.59
4. Kg. Potato Consumption Per Capita = f (GNP Per Capita)	$\log Y = 1.1805 - \frac{127.9696}{x} + 0.3614 \log x$	0.75
5. Percent Potatoes Processed 1972/74 = f (GNP Per Capita)	$\log Y = 9.0928 + 1.2390 \log x$	0.66
6. Percent Change Potato Production = f (Potato Consumption Per Capita)	$Y = 8.6798 - 2.2655 \log x$	0.75
7. Income Elasticity of Demand for Potatoes = f (Potato Consumption Per Capita)	$Y = -0.6785 + \frac{9.8064}{x}$	0.71
<u>Two Independent Variables, 20 Strata</u>		
8. Potato Yield = f (GNP Per Capita, Cropland Per Capita)	$Y = 9.6638 + 0.0041 x_1 - 7.2369 x_2$	0.91
9. Kg. Fert. per Ha. = f (GNP Per Capita, Cropland Per Capita)	$\log Y = 1.4300 + 0.6925 \log x_1 - 7.2369 \log x_2$	0.79
10. No. Tractors per 1,000 Ha. = f (GNP Per Capita, Cropland Per Capita)	$\log Y = -6.3883 + 1.1225 \log x_1 - 0.8125 \log x_2$	0.95
<u>Two Independent Variables, 62 Countries</u>		
11. Potato Yield = f (GNP Per Capita, Cropland, Per Capita)	$Y = 8.1499 + 0.0041 x_1 - 3.9827 x_2$	0.75

\* Logarithms are natural logarithms to base 'e'

Table III.6: EXPECTED YIELDS AND RECORDED YIELDS FOR POTATOES IN 62 COUNTRIES CULTIVATING OVER 10,000 HECTARES POTATOES

(Page 1 of 3)

COUNTRY	GNP Per Capita ( $X_1$ )	Hectares Cropland Per Capita ( $X_2$ )	Expected Yield (Y)	Recorded Yield (Y)
USA	6,200	0.9	29.7	26.6
Switzerland	6,100	0.1	32.5	36.2
Sweden	5,910	0.4	30.5	24.1
Canada	5,450	2.0	22.3	20.6
Germany Fed.	5,320	0.1	29.3	29.7
Denmark	5,210	0.5	27.3	25.3
Norway	4,660	0.2	26.3	24.8
Belgium	4,560	0.1	26.2	29.0
France	4,540	0.4	25.1	23.6
Australia	4,350	3.4	12.3	19.6
Netherlands	4,330	0.1	25.3	36.4
Japan	3,630	0.0	22.9	22.8
Finland	3,600	0.6	20.4	13.6
Libyan Arab Rep.	3,530	1.2	17.7	4.6
Austria	3,510	0.2	21.6	24.2
United Kingdom	3,060	0.1	20.2	29.7
German DR	3,000	0.3	19.1	17.9
Czechoslovakia	2,870	0.4	18.2	16.1
Italy	2,450	0.2	17.3	15.8
Ireland	2,150	0.4	15.3	27.0
Greece	1,870	0.4	14.1	12.9
Hungary	1,850	0.5	13.7	11.2
Spain	1,710	0.6	12.7	13.6
Argentina	1,640	1.1	10.4	12.5

Table III.6: EXPECTED YIELDS AND RECORDED YIELDS FOR POTATOES IN 62 COUNTRIES CULTIVATING OVER 10,000 HECTARES POTATOES

(Page 2 of 3)

COUNTRY	GNP Per Capita ( $X_1$ )	Hectares Cropland Per Capita ( $X_2$ )	Expected Yield (Y)	Recorded Yield (Y)
Venezuela	1,630	0.5	12.8	9.9
Bulgaria	1,590	0.5	12.6	12.7
Portugal	1,410	0.4	12.3	9.9
South Africa	1,050	0.5	10.4	15.2
Yugoslavia	1,010	0.4	10.7	8.9
Uruguay	950	0.6	9.6	4.9
Mexico	890	0.5	9.8	11.3
Iran	870	0.5	9.7	8.8
Brazil	760	0.3	10.0	8.5
Chile	720	0.5	9.1	9.3
Peru	620	0.2	9.9	5.5
Turkey	600	0.7	7.8	12.4
Algeria	570	0.5	8.5	7.3
Cuba	540	0.4	8.7	5.3
Albania	460	0.2	9.2	5.9
Colombia	440	0.2	9.1	12.6
Korea Rep.	400	0.1	9.4	10.8
Ecuador	380	0.6	7.3	11.4
Korea DPR	340	0.1	9.1	6.4
Morocco	320	0.5	7.5	8.3
Egypt	250	0.1	8.8	17.4
Cameroon	250	1.2	4.4	2.6
Bolivia	230	0.2	8.3	6.2
Kenya	170	0.1	8.4	3.9
Madagascar	150	0.3	7.6	6.0

Table III.6: EXPECTED YIELDS AND RECORDED YIELDS FOR POTATOES IN 62 COUNTRIES CULTIVATING OVER 10,000 HECTARES POTATOES

(Page 3 of 3)

COUNTRY	GNP Per Capita ( $x_1$ )	Hectares Cropland Per Capita ( $x_2$ )	Expected Yield ( $y$ )	Recorded Yield ( $y$ )
Zaire	140	0.3	7.5	4.3
Tanzania	130	1.2	3.9	3.7
Indonesia	130	0.1	8.3	3.7
India	120	0.3	7.4	9.1
Pakistan	120	0.3	7.4	10.7
Nepal	90	0.2	7.7	5.8
Ethiopia	90	0.5	6.5	5.3
Bangladesh	80	0.1	8.1	9.6
Burundi	80	0.3	7.3	11.0
Rwanda	70	0.2	7.6	6.8
Poland	2,090	0.5	8.4	19.0
USSR	2,030	0.9	12.8	11.1
China	270	0.2	14.6	9.4

Source: Table III.5, equation  $Y = 8.1499 + 0.0041 x_1 - 3.9827 x_2$



